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W. O. Reynolds

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THE FARMER AND PLANTER



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A DELICIOUS TREAT.

We neglected to notice, under the editorial head, the reception, three weeks ago, from our friend Capt. W. B. STANLEY, of a most delicious treat, in the way of jars of preserved tomatoes and cherries.

These delicacies were put up last Summer, by Capt. S., in POTTER & BODINE's air-tight glass fruit-jars, and when we opened them were as fresh, in taste and appearance, as when first sealed.

We consider these jars superior to any we have yet seen. Being made of glass, the contents can be seen when sealed, so that the housekeeper may discover any defect, from neglect in the process of putting up the fruit, in time to correct it; while the contents cannot be affected by the gases generated by the fruit. We commend these jars to our friends, and hope that many will put up a good supply of fruits and vegetables, during this Summer, for Winter use. Send to Capt. STANLEY for a supply of jars.

TO CORRESPONDENTS.

We would request our Correspondents to be more particular in mentioning the proper name of their nearest Post Office, when they write to us. We frequently receive letters merely dated with the name given to the "Home-place," and the name of the Post Office to which they wish the journal sent, entirely omitted. It is quite necessary that papers sent by Mail should be directed to some Post Office, as the Post Master at Columbia is not expected to know the location of every plantation which bears a romantic name.



VOL. X.

JUNE, 1859.

NO. 6.

R. M. STOKES, }
PROPRIETOR. }

COLUMBIA, S. C.

{ NEW SERIES
VOL. 1, No. 6. }

BAREFOOTED NOTES ON SOUTHERN AGRICULTURE.

BY AN OLD GRUMBLER.

NO V.

Plea for the use of Scientific Terms.—The Size of the Barn-Yard Stables for different classes of Horses—For Cows.—Shelters for Sheep—Do not bear Confinement well.—Proper Construction of Barn-Yards.—Plan for making Compost.—Great value of Urine.—Ammonia—Its easy dissipation.—Value of Cereal Food.—The elements of Seeds and Stalks—Identity of Elements in these and Compost Manures.—Evils of a Loose System of Grazing.—Enlarged Operations of many requisite.

In our rambling way, we have brought the reader to a contemplation of the elements of Compost Manure, and the necessity for making its accumulation and proper distribution the very first item of plantation economy. In giving principles and determined elements of substances, we have been guided by the facts, that only by such a mode of relation can the true information be imparted. It has, doubtless, been urged that we used scientific terms. We reply, that before a people can prosper in any pursuit, they must thoroughly understand the elements and principles of its nature. The use of scientific terms by us, is fully warranted by the facts that any man of ordinary ability, and by the aid of any of the common manuals of practical science, can, unaided and alone, master these terms, and so familiarize himself with their use and meaning, as to be at no future loss, when met in ordinary description. What is comprehensive in science, and readily understood by the initiated, is, no doubt, Greek to many readers—but they must learn, and the sooner the better.

A barn-yard should never be too extensive.—Stables for animals, on the other hand, cannot have

too much room. The fitting up of the stable, is the first matter to be attended to. For horses of mature age, have good separate stalls or boxes, with approved manger arrangements, and a strong and safe head-halter, suited to the character of each animal. Work and saddle horses kept steadily employed, require no yards to run in. Indulgences of this kind, add vastly to the cost of grooming, and if kept confined, except when at pasture, they are safe from the accidents which a pell-mell system of running about invariably subjects them to. Brood-mares and colts should have roomy boxes, opening into small lots, and there again into paddocks and grazing fields, where each class and age should be confined to its own limits. The cow-stable should be differently constructed. Wide, lengthy rooms, with ranges of mangers running the entire length, with divisions in the mangers at every five feet, and a post and tie-chain for each animal, is all that is required. Cattle do not injure each other by kicking, and if secured by their necks, cannot interfere with their horns. Dispensing with partitions enables the cow stable to be cleared without trouble.

Sheep shelters only require cover overhead, with a slight protection at the sides, to shield ewes and lambs from the winds. The sheep-fold and yard should be perfectly dry, and always kept littered with straw or leaves. Filth and dampness engender disease, and eat up a flock sooner than a pack of curs or wolves. They bear confinement less than other animals, and should have ample range.—From their habits of digestion, they, however, deposit most of their droppings after they return from grazing, in the fold-yard, during the night and morning. From these animals—horses, cattle, and sheep—we derive the fertilizing elements of our

compost manure, and their stables and shelters, consequently, should be so arranged, that convenience in removing their manure, should be particularly attended to in their construction. Hence, wide alleys behind the stalls of horses and cattle, should be constructed for the passage of carts, in such buildings where the nature of the ground would not admit of the precipitation of manures to a lower level, upon which to form the compost bed. These passages should, in any event, be made, in order to furnish the facilities for supplying litter for the use of the animals. The proper buildings being erected, the next attention should be paid to giving the surface of the yards a proper shape, so that whatever was placed on them would not be disturbed by uncontrollable rains. The water from the roofs should be carried off by means of gutters, either into cisterns, if necessary, or beyond the limits of the yard. Our plan for making compost manure is, to cover the yard six inches deep with leaves, straw or any other convenient vegetable matter. This we allow the cattle to trample in fine weather, in Winter, when not confined to their stalls, and we fold them on it in the Summer and Autumn, when running, during the day, on pasture. We clean out our cow-house, and sheep-stables, and spread their contents evenly over the entire surface of the yard, after which we spread on another course of litter, so soon thereafter that the stable cleanings are not injured by evaporation. We follow this routine, adding every element of fertility we can lay our hands on, such as cotton-seed, not required for feeding, dirty salt, charcoal, soot, alluvium, and peat—in fact, everything which will add to its fertility, and increase its bulk. We never heap our compost until we are ready to haul it, and then we use the ox or horse shovel, an implement which, with a negro and mule, will pile up as much as ten men with shovels. By this simple system, we compost a quantity sufficient for most of our crops, and which gives us as much as we wish to do, twice a year, to haul it out. Our manure, too, is of a good quality, never *fire-fangs*, and if not thoroughly decomposed, we regard it all the better, as decomposition has a capital effect on stiff lands, when it takes place after the manure is incorporated in the soil. A system which would save and preserve all the urine of the animals from evaporation, would add much to its value—but would require fixtures not yet attainable on most plantations. The most practical way seems to be, to save as much as possible by absorption; and, by furnishing an abundance of litter to animals in their stables, this is in a great measure effected. It is, as we have before said, the richest

excretory element of animals. If not absorbed, its nitrogen flies off in the shape of ammonia, and its salts are floated off by every shower of rain. From the odor of even the best constructed stables, we readily perceive that a great portion of its valuable elements are evaporated by the atmosphere. If collected in a tank, and allowed to remain long, it putrefies, and a considerable portion of the ammonia produced will escape with the sulphur and phosphorous, resulting from the decomposition of the salts containing these substances, and occasionally this is evidenced by intolerable stench. This ammonia, and the alkaline and earthy salts are by far the most fertilizing portions of compost manure, and the former is always most abundant when animals are fed on rich cereal food or oleaginous seeds, such as cotton-seed or linseed cake. It is the great fructifier of seeds, and without it they could not exist; whilst the alkaline and earthy salts furnish the elements for the substance of the leaves and stalks of the plant.

The elements of seeds and plants being identical with those which should constitute a properly composted fertilizer for their productions, it seems to us a plain road of easy practice to arrive at such a plan of operations as would insure a bountiful supply for the planter. To the husbanding of these essential elements we must look for all the grain-producing fertility on lands once exhausted, and the system of feeding should be so economized and arranged that the accumulation of the manure should be equal to the wants of the soil. To a loose system of pasturage, where the herbage is poor and indifferent, and where animals spend all the hours of daylight in roaming about, seeking subsistence, we attribute a great waste of manure. If they were furnished with ample supplies, even of coarse green food in stables and small lots, furnished with absorbent litter, the increased value of their condition would pay for the food and attention, whilst the manure made would be a clear gain. It would surprise the planter who follows the pasture and cow-pen system, to see what a vast addition this practice would, in a few months, add to his manure-pile. We don't advocate the preparation of finely-prepared composts—such as, when applied, would bring the soil immediately to its greatest production—but we contend for great masses of vegetable matter fertilized to a limited degree by the droppings of animals, and applied in liberal quantities, so that both the crops planted will be benefited and the soil ameliorated by the elements and substances incorporated in it. When this is perseveringly attended to, and the waste of vegetable and animal fertilizers ar-

rested—then, and not till then, will prosperity reward the toil of the laborer.

One section of the ground over which we proposed to travel, is now gone over, and in future papers we may, as the fit comes on, treat of other subjects.

For the Farmer and Planter.

MR. EDITOR:—I am aware that duty requires me to say something to my agricultural brethren, but I hardly know what chord to touch. Some men know too much—some too little—and but few know just exactly enough. While some have made advances, others seem to be riveted to one spot. I don't wish you, Mr. Editor, or any of my agricultural friends, to conclude I have turned Censor, to sit in judgment on others. I should, perhaps, take the beam from my own eye first. But enough of this circumlocution. I wish to say something to my agricultural brethren on different matters and things, and as the season for planting has arrived, I will begin with the

CHINESE SUGAR CANE.

I am aware that some say it is like Upas, killing everything that eats it, while others praise and admire it. I will give my experience. My friend Major Lyles, whose fame, in many particulars, is not confined to his native district, and who is always at his post to aid in every laudable enterprise, either agricultural or political—I say the Major gave me some of this seed, which I planted at the time of planting Indian corn. It grew finely, with only one plowing, and the weeds cut out. I was from home at the proper time of cutting for syrup; the cane, however, was cut and stacked in the lot. After I returned home, which was in a few days, it was placed in my stable-loft. It was fed to my horses; they eat it freely, and done well as long as it lasted, say four weeks, performing the usual amount of labor. I will not say they had no corn, but I will say they did not exceed one bushel each, so long as the cane lasted. I was convinced it was invaluable for food, if not for syrup. So I took courage, thanked the Major, and determined to plant enough to give it a fair trial. This was in 1857. In 1858, (last year,) I planted about ten acres in cane; it grew finely, and at the proper time was cut and ground in one of Glaze's mills, manufactured at Palmetto Works, Columbia; and here I will remark, that a better constructed mill could not be invented, for the purpose intended. A three-roller mill (perpendicular) and two large pans, costing in all about ninety dollars, was all the cash expended; the balance, as a little timber for frame, put-

ting up, &c., was done by my own hands. The mill was drawn by a single mule. I made about six hundred gallons of excellent syrup, commanding the premium at our District Fair. I found no difficulty in boiling. I have now, April 20th, about four hundred and fifty gallons of good, sweet syrup. I have never had any to sour or spoil in any way. I am giving it to my negroes, who are very fond of it, with half-allowance of bacon. And now to the question so repeatedly asked: Will it pay? In a few words I answer, when molasses is so low as it is at this time it will not pay. In 1857, it did pay well; it sold in Columbia at one dollar per gallon—good molasses selling about the same price. I think it could not be made for less than fifty cents per gallon. As food for stock, I unhesitatingly say it will pay. Cut the cane a little green; I have found it good food for horses, mules or hogs. I have not tried much with my cattle, though I believe they eat it well. I think of planting several acres soon, intended mostly for my stock, but if needs be, I may make syrup for my own use, having all things ready for grinding, boiling, &c.

Last Fall I had very few killing hogs, and I determined to put up early, and push them on as rapidly as I could. I penned them early, say September, fed them on steamed meal and green cane; giving once a day a bundle of the cane from a lot I planted after I cut my wheat. Now, Mr. Editor, neither yourself or any of your readers would, I fear, believe me if I were to tell you how my hogs improved. I will not attempt it, as my veracity might be called in question. I will only say, that this management produced results never before equalled by me or any in my section. By the last of November I had the fattest hogs I ever saw, not excepting the Berkshires and Graziers of "old Kentuck."

I know but little of the Impee, or African Cane. A friend sent me twelve varieties last season. From some remarks in his letter, I considered it almost presumption for me to plant for sugar, when the celebrated Professor Wray, with all his advantages, failed to produce granulation. I therefore planted sparingly, and confess it did not do well, while the Chinese grew off finely.

I love to talk to my agricultural friends, not that I am able to impart much information, but only to drop in a few items of experience, now and then.—I love to read their communications in your valuable paper, especially when king *Cotton* is not allowed to hold the supremacy. I want to see their views more as farmers, and less as planters. Mr. Editor, I think I am not mistaken when I say it is the interest of all to raise everything—as stock, provisions, &c.,

on their own plantations, reserving cotton for the use of the government. Our lands are greatly worn, and unless we change our course entirely, we shall not be able to move the wheels of government. Already is our State bowing from the pressure of debt. I have no doubt, if things continue (and I believe they are growing worse,) as they now are, many will remove, leaving a heavy weight upon those that remain. They will be compelled to follow in the wake of Mississippi, and some other States—*repudiate*. This I should greatly deplore. Let us, one and all, determine to change our course, ere it be too late.

Yours, &c.,

WINNSBORO'.

For the Farmer and Planter.

**TAPE-WORMS OF MAN, AND MEASLES OF HOGS.
THE MEASLES OF HOGS ASCERTAINED TO BE
THE LARVÆ OF THE TAPE-WORMS OF MAN.**

BY "ENTOZOON."

Dr. D. F. WEINLAND has recently published a small octavo volume of ninety-four pages, at Cambridge, Mass., giving a full account of the Nature, Organization, and Embryonic Development of the Tape-Worms of Man, together with the pathological symptoms which they produce, and the remedies which have proved successful in modern practice. Dr. WEINLAND is high authority on all subjects connected with Intestinal Worms, and especially the species that infest man, of which thirty-two are now known. This contribution to knowledge is valuable, both pathologically and zoologically. Nothing in the whole range of animal life is more strange than the history of the tape-worm.

In the present abstract, I shall restrict myself to such points in the natural history of these worms, as may be suggestive of useful hints to stock-breeders, and from which valuable sanative lessons may be drawn. It is necessary to cite a few paragraphs from Dr. WEINLAND's pamphlet, in order that the *facts* may be clearly appreciated by our agricultural friends.

"Every butcher is acquainted with the disease in the muscles of the domesticated hog, denominated 'measles,' and calls the flesh of such a hog 'measly pork.' It has long been known, that those pea-like whitish globules (measles,) contain a curious animal, namely, the perfect head and neck of a tape-worm; ending, however, not in the long, jointed, body of the regular tape-worm, but in a *water-bladder*.—No traces of reproductive organs are to be seen.—Such measles are found not only in the hog, but also in other animals, where they are better known under the name of *Hydatids*. For example, they

are often met with in the liver of mice and rats; in the mesentery of the hare; and even, though more rarely, in the muscles of man; and those of the latter have turned out to be of the *same species* (*Cysticercus Cellulosæ*) as those found in the hog. All the different species of this sort of hydatids are known to science under the generic name of *Cysticercus*."

"Again, other hydatids, varying from the size of a pea to a diameter of several inches, are occasionally found in the lungs, the liver, and other organs of man, but more frequently in the liver and lungs of our domesticated ruminants, such as oxen, sheep, and goats. These hydatids are roundish bladders of a milky-white color, containing a watery fluid, in which swim many whitish granules; each of these granules is, as a good lens will shew, a well-developed head and neck of a *Tænia*, inverted into a little bag. This kind of hydatid, also, has been considered as a distinct *genus* of intestinal worms, and called *Echinococcus*."

"Again, a disease frequently occurs in the brain of sheep, producing vertigo (German, *Dreher*; French, *Tournis*.) This was ascertained, years ago, to be caused by another sort of hydatid, appearing as a bladder, often several inches in diameter; and, as in *Cysticercus* and *Echinococcus*, filled with a watery fluid. On the outside of these bladders are attached a number (often hundreds) of tape-worm heads, all retractile into the inside of the bladder by inversion, like the finger of a glove. This hydatid was considered by zoologists as a *third genus*, called *Cœnurus*."

"These three genera, *Cysticercus*, *Echinococcus*, and *Cœnurus*, formed, until recently, an *Order* in the class of Intestinal Worms, called *Cystica* (bladder-worms, or vesicular-worms.) But *we now know that all of this group are merely larvæ of tape-worms*, and that the whole *Order* of *Cystica*, being composed of larvæ of *Cestoidea*, must, therefore, be *dropped from our zoological system*."

"This important discovery was made as follows: Ephraim Goetze, a German clergyman and naturalist of the last century, had noticed a singular similarity between the *heads* of some *Cysticerci* and those of some tape-worms. He had particularly noticed this similarity between the tape-worm of the cat (*Tenia crassicolis*) and the *Cysticercus* which is found in the liver of the rat and mouse (*Cysticercus fasciolaris*.) C. T. VON SIEBOLD, the most noted helminthologist now living, had observed the same thing, and in 1848 had already alluded to the possibility that all these *Cystica* might be nothing but undeveloped or larval tape-worms."

"In the year 1851, F. KUECHENMEISTER first proved, by experiment, that a certain hydatid, when brought into a suitable place, is developed into a tape-worm. He fed a dog with the hydatids (*Cysticercus pisiformis*) found in the mesentery of the hare, and on dissecting the dog, after a number of weeks, found these *Cysticerci* alive in the small intestine. They had, however, lost their tail-bladder, and the neck had begun to form the joints of a true tape-worm, which worm had been long well-known as *Tenia serrata*, and as common in the dog.—Now, one discovery followed another. Governments, scientific institutions, and wealthy farmers furnished the money and animals to carry on the experiments on a large scale. SIEBOLD fed a dog with the *Echinococcus* of the ox, and thus raised the *Tenia Echinococcus*. It was also found, in the same way, that the *Cœnurus* from the brain of sheep, is the larva of another *Tenia* of the dog, viz: *Tenia Cœnurus*, of SIEBOLD."

"Now, the question, whence does man get his tape-worm? was ready to be answered. It had been observed that the hydatids of the hog, commonly called 'measles' (*Cysticercus Cellulosæ*), have exactly the same head as the common tape-worm of man (*Tenia Solium*); and after the experiments mentioned above, in relation to the different tape-worms of dogs, a doubt could hardly exist that *Cysticercus Cellulosæ* of the hog was the larva of the common human tape-worm (*Tenia Solium*.) KUECHENMEISTER, who wished to make sure of the fact, made the experiment upon a criminal who was soon to be executed, and, as was to be expected, with perfect success. Measles taken from fresh pork, and put into sausages, which the criminal ate raw, at certain intervals before his death, were found again, in the post-mortem examination, as tape-worms in his intestines, and in different stages of development, according to the intervals in which the measles had been taken."

Thus, it became clear, that all hydatids are tape-worm larvae, which, when swallowed with the part of the animal in which they live, by another animal, develop into true tape-worms in the intestine of the latter.

"Now the opportunity for experiments was again open in another direction. If the tape-worm embryo (hydatid) developed its scolex or head by interior budding, it was likely that those animals having hydatids, got them by eating the eggs of the species of tape-worm to which those hydatids belonged. And this has been proved by experiment. Goats fed with the eggs of the *Tenia Echinococcus* got the *Echinococcus* (hydatid); sheep fed with the

eggs of the *Tenia Cœnurus* got the *Cœnurus* in their brain; healthy young hogs fed with the eggs of the human tape-worm got the measles."

The German naturalists have the merit of tracing this interesting development.

"But the zeal of these investigators did not rest here. If the sheep gets, by chance, the eggs of the *Tenia Cœnurus* of the dog into its stomach, how do the embryos hatching from those eggs reach a suitable place for their development into hydatids, which place is, in the sheep, the brain? It had been erroneously assumed, that they bored with their spines, *recta via* from the stomach, through all the tissues and organs, until they reached the brain. Accordingly, in the hog, the embryos of the *Tenia* would have to go from the stomach into the muscles; in the rat, into the liver; and in the ox, into the lungs; for it is only in these particular organs that these hydatids are found."

"R. LEUCKART, however, discovered the way in which the embryos actually reach their destined resting-place. On feeding rabbits with the eggs of *Tenia serrata*, he found that, some hours after the feeding, the egg-shells were already dissolved into prismatic granules by the juices of the stomach, and the embryos set free. But, on putting the eggs immediately into the intestine (through an artificial opening,) they were not hatched. It was clear, therefore, that only the gastric juice could hatch the eggs; and this accounts at once for the strange fact, that the embryo never hatches in the intestine of the animal where the tape-worm itself lives.—Moreover, he found that they do not pass from the stomach into the intestine, and hence, as had been supposed, through the bile-ducts into the liver, but that they pierce the blood-vessels, and thus come into the circulation. He even, after long search, found four perfect embryos in the blood taken from the vena portæ. It is by the blood that the embryos of tape-worms are carried to the organs in which they develop into hydatids. It now at once became obvious how easily they reach the muscles, the brain, the lungs, the liver, &c. But it is to be supposed, that only those which reach the destined organ will develop themselves, while the rest, which are carried to other organs, must perish."

The foregoing extracts from the very valuable pamphlet of WEINLAND, sufficiently evince the remarkable scientific enthusiasm which has been brought to bear in the elucidation of this singular zoological problem, as well as the rigorous verification, by means of the most trust-worthy experiments, of every step in the chain of induction. Hence, all must admit that the conclusions carry with them

all the force of *demonstrated truths*. I propose to call attention to some of the more important and interesting points relating to the subject which we have been considering:

1. Inasmuch as fully-developed tape-worms are invariably produced from the development of *hydatids* which are found *only* in the *organs* of living animals, it is evident that these troublesome worms must be restricted in their *habitat* to the intestines of *carnivorous and omnivorous* animals. I believe that universal experience and observation confirms this deduction of science. The intestines of the *canine and feline* tribes are the domains in which these parasites usually attain their *last* stage of development, in which the reproductive functions are called into action, and *from which* ova are expelled, to be transmitted into the *organs* of other animals, *there* to be developed into sexless hydatids, thence to pass into the intestines of the *carnivora*, *there* to be developed into perfect egg-producing tape-worms: thus completing the mysterious cycle of parasitic life. That they are not more frequently found infesting the intestine of man, probably arises from the fact, that he usually *cooks the animal food* which he eats; the hydatids that may be present, are *killed* by the heat to which it has been exposed.

2. As the eggs of tape-worms are hatched, and their contained embryos set free, by the agency of the *gastric juice*, it follows, that they cannot become hydatids until they have been transferred into the *stomach* of some animal. These eggs being produced in the *intestine*, cannot undergo any further development *there*; hence, they usually pass into the stomach of *other animals*, where the embryos are set free, and thence pass into the blood, and are carried to the organ destined to the development of the hydatids. These eggs being liable to be destroyed by heat, it is very clear, that the fact of man being a *cooking animal*, in a great measure secures his muscles from the inroads of that species of hydatid which is so frequently found in the flesh of his *pachydermatous associates*! Nevertheless, these *larvæ* are sometimes found in the human muscles, and they have been ascertained to be *identical* in species with that producing the "measles" in hogs!

3. So far as the tape-worm of man is concerned, the *hog* must be looked upon as the *source of those larvæ, or hydatids*, which, finding their way from the muscles of this animal to the human intestine, become developed into this troublesome jointed parasite. Had the strict regulations against the use of the flesh of this animal, so repeatedly and pointedly urged by the inspired Jewish Lawgiver, any rela-

tion to the propagation of this hideous worm?—Moreover, these facts seem to point to *man* as the *source* of those *tape-worm embryos*, which, in the muscles of the hog, produce the *measles*. Planters and stock-breeders, when they bear in mind how readily these animals devour *human excrements*, will not be backward in recognizing the *significant fact*, that *one* man infested with a tape-worm, *may infect all the hogs on the plantation with the measles*!!

4. In regard to those hydatids which are frequently found in the liver and lungs of our domesticated ruminants, as well as those infesting the brain of the sheep, the *dog* may be looked upon as the chief agent by which the *eggs* of these several species of tape-worms are scattered over our fields. If by chance some of these eggs are taken into the stomach with the food of these herbivora, the contained embryos are set free, pass into the blood, and are carried to the organs adapted for their development into hydatids. The hydatids found in the mesentery of the hare, are larvæ of a species of tape-worm found in the intestine of the *dog*; those found in the liver of the ox, goat, &c., are larvæ of another species of tape-worm of the *dog*; while those developed in the brain of the sheep, are larvæ of a *third* species belonging to the same animal.

Commending these facts—the genuine and *unpatented* gifts of science to man—to the attention of our intelligent planters, I may be permitted to conclude with one general observation. The existence and perpetuation of animal parasites—animals whose very life is dependent upon that of other animals—has always excited the wonder of mankind, in all ages. But the recent investigations of zoologists have invested the subject with fresh wonder. We now know that there are parasites in which *one stage* of the metamorphosis takes place in *one animal*, while the *other stage* takes place in a creature of a totally *different species*! Both of these animals are essential to the completion of the metamorphosis, and, consequently, to the perpetuation of parasitic life!

—♦—
To CURE SCRATCHES.—When the horse comes in at night, his legs should be washed clean and rubbed as dry as may be, then apply good vinegar, rubbing it well to the skin. Two applications a day are sufficient. I have always found it a sure preventive and a certain cure. If the legs have become cracked and sore, apply the vinegar freely and add a piece of copperas the size of a common hickory nut to a quart of vinegar.

—♦—
To prevent fish from "smelling" in summer—cut their noses off.

For the Farmer and Planter.

MR. EDITOR:—I am much pleased with your remarks in the April number of the *Farmer and Planter* in relation to the bill passed the late session of Congress, authorising the construction of Agricultural Colleges in the States. You have well and truly characterised the whole scheme as a “clap-trap plan to encroach upon the legitimate receipts of the treasury, and thus add other arguments to favor the advocates of protection—a scheme to cripple the finances of the nation, in order to shackle the people with a high tariff.”

There is much that is reprehensible in the administration of Mr. Buchanan, and not very much, I regret to say, which can be entirely approved of by the South. But if he had done no other act which would entitle him to our respect, his veto of the Agricultural College Bill alone, places the whole country—and the South especially—under great obligations to his wisdom and firmness. As some of your subscribers may not be readers of political journals, and may not, therefore, have seen the reasons and arguments upon which the President's veto is predicated, I ask the publication, in the *Farmer and Planter*, of the accompanying extract from that message, taken from the *Charleston Mercury*.

In publishing this extract from Mr. Buchanan's veto Message, I respectfully submit that you will not be traveling out of the legitimate province of the *Farmer and Planter*, for it is not *strictly* a political question, but one, as you have very properly remarked, “free for agricultural journals to pass upon.”

A. W. D.

Williamsburg.

EXTRACT FROM THE PRESIDENT'S VETO MESSAGE.

6. But does Congress possess the power, under the Constitution, to make a donation of public lands to the different States of the Union, to provide colleges for the purpose of educating their own people?

I presume the general proposition is undeniable that Congress does not possess the power to appropriate money in the treasury, raised by taxes on the people of the United States, for the purpose of educating the people of the respective States. It will not be pretended that any such power is to be found among the specific powers granted to Congress, nor that it “is necessary and proper for carrying into execution” any one of these powers. Should Congress exercise such a power, this would be to break down the barriers which have been so carefully constructed in the Constitution to separate Federal from State authority. We should then not only “lay and collect taxes, duties, imposts and excises” for Federal purposes, but for every State purpose which Congress might deem expedient or useful. This

would be an actual consolidation of the Federal and State Governments, so far as the great taxing and money power is concerned, and constitute a sort of partnership between the two in the Treasury of the United States equally ruinous to both.

But it is contended that the public lands are placed upon a different footing from money raised by taxation, and that the proceeds arising from their sale are not subject to the limitations of the Constitution, but may be appropriated or given away by Congress, at its own discretion, to States, corporations, or individuals, for any purpose they may deem expedient.

The advocates of this bill attempt to sustain their position upon the language of the second clause of the third section of the fourth article of the Constitution, which declares that “the Congress shall have power to dispose of, and make all needful rules and regulations respecting the territory or other property belonging to the United States.” They contend that, by a fair interpretation of the words “dispose of,” in this clause, Congress possess the power to make this gift of public lands to the States for purposes of education.

It would require clear and strong evidence to induce the belief that the framers of the Constitution, after having limited the powers of Congress to certain precise and specific objects, intended, by employing the words “dispose of,” to give that body unlimited power over the vast public domain. It would be a strange anomaly, indeed, to have created two funds, the one by taxation, confined to the execution of the enumerated powers delegated to Congress, and the other, from the public lands, applicable to all subjects, foreign and domestic, which Congress might designate. That this fund should be “disposed of,” not to pay the debts of the United States, nor “to raise and support armies,” nor “to provide and maintain a navy,” nor to accomplish any one of the other great objects enumerated in the Constitution; but be diverted from them to pay the debts of the States, to educate their people, and to carry into effect any other measure of their domestic policy. This would be to confer upon Congress a vast and irresponsible authority, utterly at war with the well-known jealousy of Federal power, which prevailed at the formation of the Constitution. The natural intendment will be that, as the Constitution confined Congress to well-defined, specific powers, the funds placed at their command, whether in land or money, should be appropriated to the performance of the duties corresponding with these powers. If not, a government has been created with all its other powers carefully limited, but without any limitation in respect to the public lands.

But I cannot so read the words “dispose of” as to make them embrace the idea of “giving away.” The true meaning of words is always to be ascertained by the subject to which they are applied, and the known general intent of the lawgiver. Congress is a trustee, under the Constitution, for the people of the United States, to “dispose of” their public lands, and I think I may venture to assert, with confidence, that no case can be found, in which a trustee in the position of Congress has been authorized to “dispose of” property by its owner, where it has ever been held that these words authorized such

trustee to give away the fund intrusted to his care. No trustee, when called upon to account for the disposition of the property placed under his management, before any judicial tribunal, would venture to present such a plea in his defence. The true meaning of these words is clearly stated by Chief Justice Taney, in delivering the opinion of the Court, (19 Howard, p. 436.) He says, in reference to this clause of the Constitution: "It begins its enumeration of powers by that of disposing; in other words, making sale of the lands, or raising money from them, which, as we have already said, was the main object of the cession, (from the States,) and which is the first thing provided for in the article." It is unnecessary to refer to the history of the times to establish the known fact that this statement of the Chief Justice is perfectly well founded. That it never was intended by the framers of the Constitution that these lands should be given away by Congress, is manifest from the concluding portion of the same clause. By it, Congress has power not only to "dispose of" the territory, but of the "other property of the United States." In the language of the Chief Justice (p. 437): "And the same power of making needful rules respecting the territory is, in precisely the same language, applied to the other property of the United States, associating the power over the territory, in this respect, with the power over moveable or personal property—that is, the ships, arms, or munitions of war, which then belonged in common to the State sovereignties."

The question is still clearer in regard to the public lands in the States and Territories within the Louisiana and Florida purchases. These lands were paid for out of the public Treasury, from money raised by taxation. Now, if Congress had no power to appropriate the money with which these lands were purchased, is it not clear that the power over the lands is equally limited? The mere conversion of this money into land could not confer upon Congress new power over the disposition of land which they had not possessed over money. If it could, then a trustee, by changing the character of the fund entrusted to his care for special objects from money into land, might give the land away or devote it to any purpose he thought proper, however foreign from the trust. The inference is irresistible that this land partakes of the very same character with the money paid for it, and can be devoted to no objects different from those to which the money could have been devoted. If this were not the case, then, by the purchase of a new territory from a foreign government, out of the public Treasury, Congress could enlarge their own powers, and appropriate the proceeds of the sales of the land thus purchased, at their own discretion, to other and far different objects from what they could have applied the purchase money which had been raised by taxation.

It has been asserted, truly, that Congress, in numerous instances, have granted land for purposes of education. These grants have been chiefly, if not exclusively, made to the new States, as they successively entered the Union, and consisted at the first of one section, and afterwards of two sections of the public lands in each township for the use of schools, as well as of additional sections for a State

University. Such grants are not, in my opinion, a violation of the Constitution. The United States is a great landed proprietor, and from the very nature of this relation it is both the right and the duty of Congress, as their trustee, to manage these lands as any other prudent proprietor would manage them for his own best advantage. Now, no consideration could be presented of a stronger character to induce the American people to brave the difficulties and hardships of frontier life, and to settle upon these lands and purchase them at a fair price, than to give to them and to their children an assurance of the means of education. If any prudent individual had held these lands he could not have adopted a wiser course to bring them into market and enhance their value than to give a portion of them for purposes of education. As a mere speculation, he would pursue this course. No person will contend that donations of land to all the States of the Union, for the erection of colleges within the limits of each, can be embraced by this principle. It cannot be pretended that an Agricultural College in New York or Virginia would aid the settlement or facilitate the sale of public lands in Minnesota or California. This cannot possibly be embraced within the authority which a prudent proprietor of land would exercise over his own possessions. I purposely avoid any attempt to define what portions of land may be granted, and for what purposes, to improve the value and promote the settlement and sale of the remainder, without violating the Constitution. In this case I adopt the rule that "sufficient unto the day is the the evil thereof."

JAMES BUCHANAN.

ROOT CROPS FOR STOCK FEEDING.

We beg again to remind our readers, particularly those who are engaged in dairy and stock farming, to appropriate a full amount of land to root-growing. Carrots, beets, turnips, parsnips, may all be raised with profit, wherever stock is to be fed. For horses, carrots are invaluable. For milk cows, they not only furnish a milk of superior flavor, butter of fine color and odor, but, when used as a portion of their food, they guarantee a healthful condition. The power of the peetic acid of the carrot to gelatinize all vegetable matter held in solution in the stomach, puts its contents in such a condition that the peristaltic motion of the intestines can manage it. Flatulence is prevented, and thorough digestion secured. The dung of the horse, fed partly on carrots, never contains the undecomposed shell of the oat, nor large amounts of starch unappropriated; and it is for this reason that a bushel of oats, and a bushel of carrots will do more for the horse than two bushels of oats: and not because the earrot contains as much flesh-making material as the oat, but because it causes all the flesh-making material of the oat to be appropriated, instead of being voided with the excreta. For cows and oxen, other roots may occasionally be substituted with profit, as variety, to all animals, is pleasing in their food; and no one root should be so continuously used. Since the introduction of pulping machines, pulped roots mixed with cut hay, cut straw, and other cheap material, add much to the economy of the farm as well as to the health of the cattle.—*Working Farmer*.

From the Southern Homestead.

IN BEHALF OF AGRICULTURE.

MESSRS. EDITORS:—The great cause of agriculture, to which your excellent paper seems to be so much devoted, is truly one in which every man, woman and child, who eats bread and wears clothes, are vitally interested—and there are now great inducements being offered, and forcible reasons suggested, why all the people should join in one mighty phalanx and lay every shoulder to the wheel of improvement, now beginning to move to advance the science of cultivating the soil.

Full remunerative prices are now being received for every species of its product, and a bright future invites the husbandman to double his diligence in his profession. What step shall we take? Shall we, in hope of raising more corn to sell at \$3 per bbl., increase the area of our plowed land? By no means. Shall we sow more wheat in order to reap more to sell at \$1 per bushel, or sow more oats that we may have more to sell at 80 cts. per bushel? Not at all. But we must plow, and plant, and sow less area, in order that we may reap more bushels of better grain; we must study more to acquaint ourselves with nature's laws, and the character and wants of our soils, and its adaptedness or want of adaptedness to our various crops—so that we may not only preserve, but increase its fertility. We must plow deeper, manure higher, pulverize more completely and cultivate more thoroughly; by leaving off some of the area we have been scratching, we will have time and force to do this; and then the area left off may be sown in clover and dressed with gypsum or land plaster, at the rate of one dollar's worth per acre, which will serve the double purpose of feeding our live stock and enriching the land. I fancy none will object to these plain and practical suggestions—at least, of those who read your paper; but there are some who never read an agricultural paper, (I am sorry for it,) neither will they attend an agricultural fair. All improvement, to them, is humbuggery and money-making schemes; their fathers plowed up and down the hill, and went to mill with corn in one end of the sack and a rock in the other, and they love to venerate the past; for the present they cannot be prevailed upon to join in and help redress the wrongs that have been and are being inflicted on old mother earth: but ere long she will become incensed at their want of maternal regard, and refuse to uncover her bosom to supply the wants of such ungrateful offspring. But I have digressed.

We have all the elements at home to increase our crops, and at the same time increase the richness of the soil; and no farmer can afford to pursue a course that will not tend to that very end. I would suggest a plan, but I know mine is not perfect. I want, by practice and observation, to improve it, and hear more from others. But there are demonstrations in various parts of the country, that it is practical. Let a man who can cypher by the rule of three, farm upon a system that makes his fields less productive every year, and sooner or later, he will find the answer to be *starvation, nakedness and ruin*.

On the other hand, if the system of improvement, as suggested, be practical, of which there is not a

shadow of doubt, the proposition, worked by the same rule of the former, will produce a much more pleasing result; showing the land capable, in time, of producing as much more as it now does, and that without any additional labor; consequently, the product is worth more than three times the amount it could have been if the land had even retained its present capacity of productiveness, and then the intrinsic value of the freehold itself will have augmented almost immeasurably. Brother farmers, if we would have our sons love their parental homes better than any other spot on this earth, we must educate and instruct them in the art of making them more fertile, more interesting, more beautiful, and more valuable; and then they will abandon the idea, too prevalent, of hurrying to sell the *old* place, and spend the money, as is often the case, in trying to make doctors or lawyers of themselves or invest it in wild and ruinous speculation; and plant and cultivate evergreens around the spot where rests the dust of their sires, and learn to love the place ornamented with rose-bushes and juniper-trees, planted by the hand of their noble mothers.

If this state of things can be brought about, those who do it will have demonstrated to the world that Tennessee is its garden spot, and her sons and fair daughters the happiest and most independent people on earth.

A WORKING MAN.

AGRICULTURAL SOCIETIES.

A very interesting sketch is given in the Patent Office Report, just published, of the origin, number, condition, &c., of the various State and county organizations in existence, throughout the United States, for the promotion of agriculture.

[The first agricultural association incorporated in this country, was the "Society for the Promotion of Agriculture," established in South Carolina, in 1785. In 1791, a "Society for the Advancement of Agriculture, Arts and Manufactures," was founded in the city of New York, but it ceased to exist in about ten years. Next in chronological order is the "Massachusetts Society for Promoting Agriculture," which was incorporated in 1792, and contributed largely to the advancement of its objects. Some of its members, residing in the county of Middlesex, afterwards organized the first county agricultural association formed in the United States. Several other societies of the same kind sprung into existence within a few years, and in August, 1810, Elkanah Watson, of Berkshire, Mass., was instrumental in getting up the first agricultural fair ever held in America. From that time, efforts in behalf of agriculture received a new impulse, and associations were soon formed in most of the older States. The "American Institute of the city of New York" was incorporated in 1828, rendering efficient service; and four years after, the New York State Agricultural Society commenced its useful career. At the present time, societies or boards of a similar character have been incorporated in nearly all the most populous States, besides numerous county societies, all having the same objects in view, making an aggregate of about eight hundred distinct organizations.—*N. Y. Journal of Com.*]

Do not plant trees when the ground is too wet.

THE COTTON-SUPPLY ASSOCIATION.

Wilmer & Smith's *European Times*, of the 9th inst., devotes an article to the "Cotton-Supply Association, and the future supply of Raw Cotton," from which we quote:

The mere fact of being so dependent upon the United States would not be so bad in itself were it not that the produce of that country is now more eagerly competed for than formerly. Fifty years ago Great Britain consumed at least 80 per cent. of the Cotton used up in America and Europe; twenty years ago her proportion was about 57 per cent.; at the present time it is not more than 48 per cent.

The actual progress of the English manufacture was pretty uniform down to about fifteen or sixteen years ago; but since that time the march has been greatly retarded. From 1800 to 1814 the average annual consumption was about 64,000,000 lbs.; during the next fifteen years it was 144,000,000 lbs.—an increase of 124 per cent.; for the fifteen years ending 1844 the figures were 373,400,000 lbs., showing an increase of 159 per cent.; but for the fifteen years ending 1857, the increase was only 84 per cent., viz: 688,400,000 lbs.

On referring to the American and European statistics, we find that it is within the last-mentioned period that the cotton manufactures of those districts have shown the most marked symptoms of progress. We have not the figures complete from 1830, but if we take those of the twenty-two years—1836 to 1857—and divide them into two periods of eleven years each, we obtain the following results:

	AVERAGE ANNUAL CONSUMPTION.		Per cent of increase.
	1836-46. lbs.	1847-57. lbs.	
Great Britain	442,000,000	697,000,000	57½
Continent	272,000,000	523,000,000	95½
United States	119,000,000	224,000,000	88½
Total	833,000,000	1,444,000,000	73½

Here it will be perceived that whilst the increase in the consumption of the Continent during the eleven years ending 1857, over those ending 1846, was 95½ per cent., and that of the United States 88½ per cent., that of Great Britain was only 57½ per cent. England's proportion of the total consumption during the first period was about 53 per cent., but of the second period only 48 per cent.

In consequence of the great increase in the consumptive powers of Continental Europe and America, the available supply of Cotton for the spinners of Great Britain has been much curtailed. In proof of this we need only refer to the statistics of the last few American crops. Thirty years ago three-fourths of the Cotton raised in the United States was exported to England, and fifteen years ago the quantity shipped was 60 per cent.; but for the four years ending 1857, it was reduced to 51 per cent., and for the year 1857 alone, only 46 per cent. Last year, owing to the prostrate condition of the American and Continental spinners, Great Britain received 56 per cent. of the crop; but this year, with a revived trade, she will only claim about 46 per cent., the same as in 1857, and that, notwithstanding the extraordinary yield of 3,700,000 bales, which it is anticipated the crop will make. This is made clear

by reference to the following figures from Messrs. Neill, Brothers, & Co.'s Circular of 11th of March. The incoming crop has been very forward, and in this respect is analogous to those of 1852-53 and 1855-56. The proportion of the total crop received by Great Britain of the former season was 52 per cent., and of the latter 52½ per cent., and it will be perceived that the figures stood at about the same relative position on the 11th of March each year:

	To Great Britain.	France.	Other		Total.
			Foreign Ports.	American Con'tion.	
1858-9	1,000,000	338,000	342,000	540,000	2,220,000
1855-6	1,039,000	334,000	321,000	426,000	2,120,000
1852-3	1,035,000	210,000	188,000	487,000	1,920,000

Thus, though the total amount of Cotton disposed of, so far this year, exceeds that of 1853 by 300,000, and that of 1856 by 100,000 bales, yet Great Britain has received 35,000 bales, and 39,000 bales, respectively, less than she received those years. Our readers will also notice the enormous increase in the exports to the Continent, exclusive of France, viz: 154,000 bales, which, added to the increase to France, makes 282,000 bales.

Stubborn facts like these tell better than the most elaborate arguments, and ought most undoubtedly to convince the cotton spinners of Lancashire of the necessity of increasing, by all possible means, the production of raw cotton. In speaking thus we mean no disrespect to the cotton planters of the United States. The produce of their labor is all that we require in quality, and we cannot hope to excel it; we shall, therefore, be at all times most willing to take all they can dispose of to us; but it is the height of folly to be dependent upon them for all, or even three-fourths of what we absolutely require. The American planters, therefore, need not complain, and satirize our attempts to obtain from other quarters what the United States *cannot furnish us with*, viz: a fully adequate supply of Cotton Wool

AYRSHIRE CATTLE.—In Massachusetts, the improvement of dairy stock by the introduction of Ayrshire blood, has become so apparent, that no argument could induce those acquainted with their value to return to the hazards of native breeding.—We could point to farmers in Essex, Middlesex and Worcester counties, who, under the most prudent management, avail themselves of every opportunity to introduce Ayrshire blood into their herds, and our own observation teaches us that the importations of the Massachusetts Society for Promoting Agriculture, of Capt. Randall, of New Bedford, and others, have been vastly beneficial to our dairy stock. The bulls of this breed can be traced wherever they have been by the good stock they have left behind them. One of them was kept upon a secluded farm in Essex county, and rendered it famous for its fine dairy cows. Another gave superior character to the herd of one of our well-known farmers, and to all the dairies in his neighborhood. An imported Ayrshire cow not far from us has produced through a variety of mixtures and pure breeding, a little herd of cows and heifers of the highest uniformity of excellence. We might enumerate a tedious catalogue of such cases as these.—*Salem (Mass.) Advocate.*

DAIRY MANAGEMENT.

The following careful and systematic management of a dairy, was furnished by a correspondent to the *Southern Planter*, and will afford some valuable suggestions, and especially in relation to regularity :

And 1st. Of the feeding and general treatment of our milk cows in winter. As the habits of our community are industrial, we rise at half-past five o'clock in Winter, and, that chores may be done, and all things ready for business, our herdsman rises at half-past four o'clock, and feeds the stock with hay, cleanses stalls, and prepares for milking, which is performed at six o'clock. At eight o'clock they are messed, giving one peck of beets, carrots or potatoes, and two quarts of wheat bran or shorts to each cow, wet to a swill. At nine o'clock they are again fed with hay, also at twelve, and three and seven o'clock in the evening. About half-past four o'clock, P. M., they are again messed, as in the morning; if less roots are given, more bran is added, to the amount of four quarts per mess.

Our Winter milk cows are watered in the stall, morning and evening, all they will drink; for this purpose, water is brought into the stalls by aqueducts, which much facilitates the labor of watering. The cows watered in stalls are only turned out when the weather is pleasant and warm, and then not for much length of time; for we deem it a great object to keep them warm; and to facilitate this, our stables occupy the basement of our barns, which are made of stone, neatly laid, and plastered and white-washed inside, to make them sweet, light and clean. Twice per week our cows receive, just before watering, two tablespoonfuls of fine salt per head, in Winter, and a little more when on grass.

We feed cabbage, turnips, &c., freely, and to prevent the taste in the milk and butter, we put one quart of boiling water to ten quarts of new milk, when it is set for cream. We have learned that in seven or eight hours from the time of feeding the above articles, milk will taste badly, consequently care is taken to inform the dairy-woman whenever these articles are fed. The water thus applied, renders the milk and butter perfectly sweet and good.

In Summer, we seldom milk but twice each day, at 5 o'clock, A. M., and half-past 6, P. M. In all points mentioned we are very regular and precise, for which we have clocks in our stables.

2. Of rearing calves. All calves intended to be raised are weaned at four weeks old, and fed by hand, except bulls, or some special breeders, which we generally put on a poor cow for the season—when commencing to feed by hand, we only give about four quarts of new milk for the first four days; for the second four days, we add half morning's milk to night's, or *vice versa*; at eight days, feed milk twenty-four hours old, continuing this through the season, increasing the quantity to six quarts, and taking the milk even when skimmed at the ordinary time, finding they do better than not to have it at all. By degrees a little bran is added to the milk, in order to learn them to eat it. When learned, they are fed about one pint each, per day, together with roots and hay at pleasure. They at all times have free access to water, which is brought to their stall by aqueduct. Calves fed on milk need water.

3. Of the feeding of fattening hogs. At present we do not keep them; when we did so, their food was all cooked, except their swill from the dairy and kitchen. They were regularly fed three times each day, giving them, on an average, about eight quarts of corn per head, per day; that is, for the last four weeks before slaughter, in which time no swill or roots are fed; the object of this is, to harden the pork; perhaps it would not be very profitable to feed this way for market. The whole period of fattening was about three months; the first eight weeks potatoes, pumpkins, squashes, &c., &c., are cooked and put with the cooked meal; the meal being cooked by itself requires a longer time to cook; they are fed of this mixture, all they will eat, three times each day. Our hogs used to average about 500 lbs. for a drove of fifty or more—they have averaged as high as 600. It is the decided opinion of some of our best herdsman, that, since all we can have of a hog is the carcass, the sooner this is obtained, the better; of course, we feed all they will eat of fattening material as above from birth till slaughter. Others think they will arrive at about the same size by common food for store hogs. But one thing our experience justifies, and that is, that a pig may be made to attain three times the weight in the first six months of its existence by rich and plentiful food, that it will by the common method.

EXPERIMENT IN CUTTING WHEAT.

A practical farmer in this State has sent to one of our rural papers two samples of wheat, of the same kind, grown in the same field, but cut at different times. He states that one sample was cut on the 20th of July last, in a green state, when the crushed grain had the appearance of thick dough; the other sample was cut six days later, in a ripe state, the ears drooping, and the grain firm and hard. Both samples remained in stack until the 17th of October. When the grain was threshed, it was found that the green cut portion was equally dry with the other; but, besides that, the green cut grain weighed twenty-eight ounces per bushel more than that which was allowed to stand till it was quite ripe, and the former has been also found to produce a better sample of flour, with one-twelfth less bran.

If we have any doubting readers, here is an experiment easily to be tested. Agricultural newspapers have, for a number of years, urged farmers to cut their grain before it is fully ripe and hard; but, we believe the number who have adopted this plan is limited, in comparison with the whole farming community. Besides the advantage in heavier grain, we think all will agree with us that it is a great advantage in a wet harvest, allowing a longer period to get in grain. Most of our readers will, doubtless, remember, that last Summer, just as the grain was beginning to color, we had most delightful and dry weather; and just as the grain was dead ripe, and the customary time for harvest was at hand, the rains set in, and continued for a month or more, and the wheat was all more or less injured. Those farmers who took advantage of the plan of cutting in a soft state, had their grain housed before the wet weather, and, of course, could com-

mand the highest price for their perfect wheat.—Thousands of dollars in the aggregate might have been saved to the farmers of this country, if they had taken "time by the forelock," instead of letting time drive them in their harvest. Have none of our readers a word of counsel for their brother farmers? *Western Agriculturist.*

From the Country Gentleman.

TREATMENT, VALUE AND APPLICATION OF MANURES.

TREATMENT OF MANURE IN THE YARD OR DUNG-PIT.—Three points must be attended to in a rational treatment of yard manure.

1. The original virtue of the manure must be almost perfectly retained. 2. The whole mass should be made as far as possible of uniform quality throughout. 3. The process of decay or fermentation should proceed neither too rapidly nor too far; nor should the manure shrink too much in bulk.—The importance of both the first-mentioned qualities is self-evident, and in reference to the third point, it need only be remarked, that while the nature of the soil and climate are often to be considered in determining how far manure should be rotted; yet generally, a medium between the two extremes is to be recommended.

The manure must be spread evenly as soon as removed from the stable. If it be left with an irregular surface, with heaps here and there, the drying and fermentation will not proceed uniformly, and the quality will be different in different places. Care should be taken that all loose material be well stamped down, as in such places the rotting goes on with great rapidity, and loss may ensue. Also, under certain circumstances, in cavities and unpacked litter, mouldiness appears, which extends to the neighboring manure, and it becomes lumpy and balls together. In these portions of the heap further decay is thus checked, and the uniformity of quality is spoiled. Experience has also proved that such mouldy manure acts injuriously when applied to fields just before sowing.

In cases where dung has become quite mouldy, it is often necessary to overhaul it, and pack it down anew in layers, each of which should be drenched with the liquor of the cistern. Between their layers of muck may be interposed, or the whole may be mixed up as a compost. It is to be recommended that the different kinds of manure be well mixed together; so that, for example, horse-dung, which heats so readily, be interposed in thin layers between the cattle-dung, and not left to accumulate in one place. Especially important is it that the yard manure be thoroughly trodden down. By this means the access of air, and, consequently, the too rapid fermentation of the mass, as well as loss of volatile ammoniacal matters, is hindered. To accomplish the proper packing of the manure, nothing is better than to allow the cattle to spend some hours daily upon it. The heap must in this case not be kept too wet, and it is well to spread a little straw upon it in order to attract them to it, and induce them to lie down upon it. This is especially to be recommended when the manure is transferred from the stable only at intervals of 14 days or thereabouts. In continued dry and hot Summer weather, the surface

of the manure loses its moisture, and air finds access; so that shortly too rapid fermentation sets in, and ammonia escapes, as is indicated by the smell. Bailey found that manure from the stall, which contained but 56 per ct. of moisture, evolved as much gaseous ammonia upon drying at the temp. of boiling water, (212°) as would be equal to $\frac{3}{4}$ of a lb for a load of 1600 lbs of fresh manure. In the same amount of horse-dung, he observed a loss by drying of more than 1½ lbs. This loss is much greater when a powerful manure in an advanced stage of decomposition, is allowed to dry in free air. I found, for example, that sheep-dung which had been collecting in the stable during three Summer months, and contained 71 per ct. of moisture, lost $\frac{1}{3}$ per ct. of its weight of ammonia in being dried at 212°. This, calculated on a load of 1600 lbs, is nearly 6 lbs, having (in Germany) a value as manure of 75 cts. In the dry dung remained $\frac{2}{3}$ per ct. of ammonia, so that by drying, it lost $\frac{1}{3}$ of its nitrogen in the form of ammonia.

The loss by drying is of course prevented by maintaining a certain degree of moisture in the manure. To accomplish this the contents of the cistern formerly described are intended to serve. This liquid should be pumped up—and by means of moveable troughs distributed over the whole surface of the heap; and, indeed, so often and in such quantity as the heat and drouth make necessary. The whole art of preparing a good yard manure consists, in great part, in a careful regulation of its amount of moisture, for this must be neither too great nor too small. Where too much moisture is present, it is liable to become cold, and sour; and humus-like bodies are formed, which act unfavorably upon vegetation; while in absence of sufficient moisture the ammonia escapes into the surrounding atmosphere. By maintaining the manure moderately moist throughout its entire mass, a fertilizer will be produced, preserving almost entirely the original virtue of the manure, and in a form well adapted to promote the growth of crops; and this without employing chemical fixing-agents, as plaster, sulphuric acid, &c., whose application on a large scale is often too costly and troublesome. Swamp-muck, peat, brown-coal powder, or any earth rich in vegetable matter, may often be economically employed to assist in retaining ammonia. Whichever material be used, it should be strewed as a thin coating over the surface of the manure, from time to time, during the Summer, and be kept moderately moist by occasional *drenchings* with the contents of the cistern.

DECLINE OF WHEAT GROWING.—At a late meeting of the Pennsylvania Agricultural Society, Dr. Alwin called attention to the interesting fact that there was a decline in the yield of wheat to the acre, in the grain States. In Ohio, a State but little over fifty years old, the crop had fallen off from forty bushels to the acre, to about sixteen; while in the best portions of New York, where thirty bushels used to be considered a fair crop, only twelve bushels are now raised. The falling off in other States has been equally marked; but while this was the fact with the wheat crops, he was glad to know that the amount of corn produced to the acre had largely increased, and was still increasing.

RECLAIMING CLAY SOILS.

No subject can be more important to large districts of our country, than the reclaiming of clayey and other heavy soils. Among these we may name the red-kellis hard-pan soils, ferruginous clays, ferruginous loams, &c. As to the first, in common with some of the others, we will not be disputed in the assertion, that when clayey or heavy soils are properly reclaimed, they are more valuable than lighter soils. The fact that they retain manures, requiring less in amount to raise crops, is alone a strong argument in their favor. Their ability to repeat a greater number of crops without exhaustion, and their general adaptability to all crops, instead of being suited only to special crops, add materially to their value.

Clay soils are always more fully charged with the inorganic constituents of plants than light soils; and when once in the proper mechanical condition to avail of atmospheric influences, insuring action to liberate phosphates, alkalies, &c., they form the most profitable farms. One of the peculiar properties of clay is to receive and retain ammonia, even against the effort of running water to remove it; the formation of new chemical compounds with the divided silicious matters pervading it in degree, as each grain surrounded by alumina presents all its surface upon the slightest contraction of the clay by drainage. No clay soil is entirely without sand, and in such soils the sand may be viewed as *miniature rocks*, generally of diversified kinds, containing all the primaries of nature; while in sandy soils, the particles all arising from the same or similar rocks, do not supply so great a variety of pabulum for plants. Most clays, therefore, when in admixture with the other materials which go to make up a soil, have a greater variety of constituents, and in better condition for improvement than other soils. Their compact condition requires amendment, however, before their advantages can be availed of.

First, under-drain them thoroughly; the redundant water being parted with, the clay contracts, and a series of pipe-like openings first occur; these permit a more thorough circulation of atmosphere, which, in turn, divides these pipes into lesser portions, like broken, and partially ground, tobacco pipes; the adhesive property of the clay is now lessened, and subsoil plowing ameliorates it materially. Fall plowing by ridging and back furrowing, leaving the surface like a succession of inverted letter Vs, permits the freezings and thawings of Winter to ameliorate still further their condition; these ridges split in the Spring by a double mould-board plow, and then cross-plowed, give a kindly soil, capable of being used even for garden purposes.—The day has passed when farmers suppose that clay soils retain manures because they will not pass water. They now know that water heavily laden with any matters in solution, if filtered through sand containing only one per cent. of *clay*, will be rendered pure, the clay retaining all the matters before held in solution. They also know that all the gases are received and retained by clays; and, therefore, manures decomposing in clay soils, can neither filter downward in solution, or rise into the atmosphere as gases, and for these reasons the clay soils retain manures. If clay has such properties,

it has always had them, and during all time clayey soils have been storing up nature's treasures. Put them in proper mechanical condition, to permit roots and atmosphere to percolate them, and they will furnish food to plants.

All the above remarks apply to all the kinds of soil named in the opening of this article. If deleterious matters are contained in them, as in the copperas clays, the admission of atmosphere renders these foreign substances the more soluble, and while the clay retains all matters required by plants, it freely parts with such solutions as are unfriendly to vegetation. The red-kellis subsoils fall to pieces as soon as under-drained and subsoil-plowed, and in doing so, yield up potash in abundance.

We dug a well sixty feet deep, seven years ago, through this red-kellis, blasting all the way, and the kellis seeming to be solid sand-stone. When exposed to the atmosphere for a few months, it fell to pieces and made a soil worthy of being used as a manure on many other soils.—*Working Farmer.*

DEEP PLOWING.

It has been truly said, that an increase of one inch in the average depth of plowing throughout the United States, would produce a larger amount of profit, as compared with present results, than all the gold received from California. We believe in this assertion; but we do not believe that all soils, without being previously subsoiled, are fit for this immediate increase in depth. We know that even clay subsoils, which approach within a few inches of the surface, after being thoroughly subsoiled, become so ameliorated as to be capable of admixture with the immediate surface-soil; and we are equally well aware that subsoiling cannot be performed with any profit in clay subsoils containing excessive amounts of water; that such soils must first be under-drained, before subsoiling can be pursued with profit, as well as that subsoiling must precede an increase of depth in surface-plowing. But there are millions of acres capable of being plowed to double the depth to which they have ever received an incision from a tool of any kind, with increased profit. Even in the State of New York there are thousands of acres at this time, which have never been plowed to a greater depth than four inches, composed of a loam entirely ready to be disintegrated by a surface-plowing, to the depth of twelve or fifteen inches with increased profit; and there are few soils that may not be at once plowed to an inch or more beyond the former depth. The adage "that many farmers own another farm immediately under that which they now cultivate," cannot be too often repeated, and the judicious farmer whose will has been so often quoted, as having informed his sons that he had buried a sum of money at a depth of twelve inches somewhere on his farm, and that they must find it, improved the quality of their products by the disturbance of the soil more than he would have benefited them by the supposed legacy by direct bequeathment. Less manure will produce a larger amount of crops in a deeply disintegrated soil; and it is not true that the deeper you plow the more manure you require. It is true that the more thoroughly manure is divided, the greater will be the amount of crops produced; and this is more

certainly brought about by deep than by shallow plowing.

No practical farmer can doubt that, in deeply plowed soils, crops are less annoyed by drouth and by insects; and if plowing is useful at all, it must be useful precisely in the ratio to the amount of soil disturbed, provided that roots are capable of appropriating a greater amount of soil by its disturbance. Who doubts that roots will travel to the depth of twelve or fifteen inches, or even double that distance? Who doubts that lime passing down through the soil will rest inert on the surface of a cold and undisintegrated subsoil? Who does not know that many farms, supposed to be worn out, have been revived by the increase of a few inches in the depth of plowing? And who will longer be contented to use a pitiful one-horse plow, skating it through the soil like a harrow with one tooth, and starving on the continually decreasing product?—*Working Farmer.*

CHAPTER ON SHOEING HORSES.

We make an extract from the Essay of M. A. Cumming, V. S., on the subject of Shoeing Horses, and hope our farmer friends will continue to investigate until a reform is brought about in this matter, so essential to the right locomotion of horses, especially upon the road.

In the preparing of the foot for the shoe, there is, also, as I have already noticed, room for much amendment on the way it is practiced here. The back parts of the hoof having less growth and more wear on them than the fore, seldom require anything removed except it be a little from the outside heel. The frog should only be touched to remove any cut or ragged portions. The bars, those angular ridges that lie between the frog and heels, should be left at their full strength, and the sole between them and the wall of the heel thinned down, so far, at least, as to prevent the possibility of its descending on the shoe. The sole at the toe, where it has the protection of the shoe, should be thinned out till it can be made to yield to the pressure of the thumb. The crust should be shortened back in front, a notch taken out for the reception of the upturned tip, and its whole lower surface, where it rests upon the shoe, made plain and level. This is a most important point. The weight of the horse is supported by the attachment of the coffin bone to the inside wall of the hoof, and the lamina by which the connection is formed, permitting of a very perceptible amount of motion of the parts. It is consistent with this that the rest of the hoof upon the shoe should be greatest at the inner edge of the crust rather than the outside, so as to give the weight the most direct support. In the scooped-out form of shoe and foot, where the bearing of one upon the other is by the extreme outer edges, this is widely departed from, and the effects are seen in the broken, twisted and contracted edges and heels produced. When the fore shoes are made without a seat, as in the case of having the side next the ground concealed, the same holds good with respect to the flattening and leveling of the crust, but the sole requires to be more cleaned out, so as to prevent its descent upon the shoe. For doing this, as well as shortening back and forming the toe, the drawing knife

will be found a far fitter tool than the buttris. In applying the latter to the foot, the heels, frogs and bars are what first present themselves and stand most in the way of its cutting edge; with the knife, the toe and sole are the parts easiest to cut, the back of the foot being out of the way, rather; and it is owing to this, perhaps, more than anything else, that in the hands of those who shoe by rote only, without rule or reason for what they do, the one tool may be taken as the emblem of a good plan of shoeing, and the other the reverse. It is quite possible to make a bad shaped foot with a drawing knife, or a good shaped one with a buttris, but it is more convenient with each tool to do the reverse.

Few general directions can be given about the driving of the nails—different kinds of feet requiring different depths of hold. None of the nails should be so far to the inside of the wall as to press on the sensitive parts, nor so near the outer edge as to split or break the hoof; and, as a mark of fair and uniform driving, the nail-points should come out all about one height. The rasp should be used to finish off with, but should be applied but sparingly to the upper part of the hoof; and wherever it has gone, the surface should be coated over with a composition of greasy and resinous matters, to stop its pores and prevent its drying and cracking on the surface. This should be done occasionally to the feet of all horses going much in snow and wet.

WEANING OF LAMBS.

The time of weaning differs materially, according to the locality of the farms and the quality of the pasture. In a mountainous country, and where the land is poor, the weaning often takes place when the lamb is not more than three months old, for it requires all the intermediate time to get the ewes in good condition by the time of blossoming, or to prepare them for market. In a milder climate, and on better pasture, they need not be weaned until four months old, and that is about the period usually selected. On the other hand, if the pasture is good, and especially if it is the system or the interest of the farmer to sell his lambs in store condition, they frequently are not weaned until they are six months old.

The first thing to be attended to, is, to remove the lambs and the ewes as far as possible from each other. There will be plenty of confusion and unhappiness for a while, and which would be prolonged until it was injurious to both the mother and the offspring if they were able to hear each other's bleating; indeed, it would frequently happen that the ewe could not be confined in her pasture, if she heard the continued cries of her young one. Two or three days before they are intended to be parted, the ewes and the lambs should be removed to the pasture which the latter are afterwards to occupy, and then, in the evening of the appointed day, the ewes are to be driven away, probably to the pasture which they had occupied with their lambs, or if they are moved to another, it should be a poorer and barer one. It will be advisable, although it is not always practiced, to milk them two or three times, in order to relieve their distended udders, and to prevent an attack of inflammation, or garget. In a day or two they will be tolerably quiet, or if any one should refuse her

food, she should be caught and examined, and the state of her udder should be particularly observed.

The management of the lambs will depend on the manner in which the farmer means to dispose of them; but at all events, they should be turned on somewhat better pasture than that to which they had been accustomed, in order to compensate for the loss of the mother's milk. Many farmers are very fanciful as to the provision for the weaned lambs.—The clover, or the sainfoin, or the after-nath, are selected by some; others put their smaller and more weakly lambs to weed the turnip crops; but there can be nothing more desirable than a fresh pasture, not too luxuriant, and yet sufficient to maintain and increase their condition. A great deal of caution is requisite here. The lamb must not be overgorged, lest some acute disease should speedily carry him off. On the other hand, he must not be suffered to decline, for if he does, he will rarely recover his condition, however good the keep may afterwards be.—*Youatt on Sheep.*

CUTTING GRASS AND GRAIN EARLY.

It is now pretty well established, not only on chemical principles, but by oft-repeated experiment and observation, that all crops designed as food for man or beast, should be gathered before full maturity. Grass, while still green, contains a large proportion of starch, sugar and gum, which furnish direct nutriment; but these substances are changed to hard, indigestible, woody fibre as the crop ripens. The same holds true of all kinds of grain. Every one is familiar with the sweet taste of soft corn or wheat, owing to the amount of sugar contained at that period of growth. Gum and starch are likewise abundant. If the maturing process be suddenly arrested at this period, these substances are preserved unchanged, while, if allowed to fully ripen, a considerable portion of them is transformed into the hard, woody husk or bran. The main point to be looked to, is, not to cut grain before sufficient maturity is attained to prevent shrinkage or a loss of weight.—*Seed grain may well be left to its natural ripening upon the stalk.*

Grass should be cut as soon as the seed is set, or immediately after flowering is over—clover should be cut soon after the full bloom is attained.

A large number of experiments on wheat point to about ten days before full maturity as the best time for cutting. One of the best set of experiments we have seen recorded was made by an English farmer, Mr. Hannam, of Yorkshire. He made five successive cuttings from the same field, with the following results:

Cuttings.	Days before Maturity.	Products of 100 lbs. of Grain.		
		Fine Flour.	Seconds.	Bran.
1	30 days	75 lbs.	7 lbs.	17 lbs.
2	21 days	76 lbs.	7 lbs.	16 lbs.
3	14 days	80 lbs.	5 lbs.	13 lbs.
4	2 days	77 lbs.	7 lbs.	14 lbs.
5	0 days	72 lbs.	11 lbs.	15 lbs.

We have not at hand the relative weight of grain gathered at each cutting, but other experiments give also the largest yield for cuttings corresponding with No. 3. In the above example the flour from

No. 3 was superior to the others. A practical rule for gathering wheat, corn, and other grains, is, to commence the cutting just when the kernels will yield to a moderate pressure between the thumb nails.—*American Agriculturist.*

From De Bow's Review.

FUNCTIONS OF THE SLAVE.

We agree in the views of a cotemporary, that the true functions of the slave are menial, or are to be exercised in the fields. He says:

It is time the people of the South should look into the matter with an eye single to their interest and institutions; it is time the mechanics themselves should think of elevating the standard of mechanic arts, and refuse to teach negroes trades; it is time public sentiment should be awakened to the enormity of the wrong thus imposed upon mechanical genius by such a policy; it is time that a reform should be commenced in this matter, and it is time we should begin to understand the ruinous consequence to the institution of slavery which must result in the persistent policy of learning negroes mechanical trades.

If we ever expect to be independent of the North, it is absolutely necessary that we should elevate the standard of the mechanic arts; and to do this, negro competition and negro ascendancy must be prohibited, and white talent employed in promoting that very much wished-for desideratum. We believe that the institution of slavery is morally and divinely right; we believe that the condition of the negro is elevated to a degree, by being held in bondage and slavery, which he never could attain in his native wilds, under any circumstances whatever; and for his good and the interest of our people, we would see the institution of slavery perpetuated to the last day and generation, and for that reason we would urge the necessity of instituting every precaution to sustain it.

Thus, in placing the negro in competition with white mechanics—a superior intellectual power—we drag the latter down to a level with the former, and the consequence is, to some extent, and we are sorry to say it, regarded by some as being no better than the former. This is well calculated to breed a discontent and hatred on the part of the white mechanic, and make him an enemy to an institution which should be the means of promoting the interests of the very pursuit in which he is engaged.—This policy also creates a spirit of antagonism between the rich and poor, from the fact that the rich thus array capital against labor—elevate the negro at the expense of the poor white mechanic.

SCOURS IN COWS.—Mr. L. Pierce, of Putney, Vt., states that he has used green tea for scours in calves, lambs, and pigs, and it always cured them. He gives, for a dose to a calf, a teaspoonful of tea steeped in a teacupful of water. By this rule, a cow might take two or three teaspoonfuls.

Borax has usually been made from the crude bicarbonate of soda evaporated in Tuscany, but a new mineral (the borate of lime), has recently been discovered in South America, from which it can be manufactured.

WATER-PROOF CLOTHING FOR NEGROES.

We give, from the *Scientific American*, the following method of rendering negro-clothing proof against dews and showers :

"Take one pound of wheat bran and one ounce of glue, and boil them in three gallons of water in a tin vessel for half an hour. Now lift the vessel from the fire, and set aside for ten minutes ; during this period the bran will fall to the bottom, leaving a clear liquid above, which is to be poured off, and the bran thrown away ; one pound of bar soap, cut to small pieces, is to be dissolved in it.—The liquor may be put on the fire in the tin pan, and stirred until all the soap is dissolved. In another vessel, one pound of alum is dissolved in half a gallon of water ; this is added to the soap-bran liquid while it is boiling, and all well stirred ; this forms the water-proofing liquid. It is used while cool. The textile fabric to be rendered water-proof is immersed in it, and pressed between the hands until it is perfectly saturated. It is now wrung, to squeeze out as much of the free liquor as possible ; then shaken or stretched, and hung up to dry in a warm room, or in a dry atmosphere out doors. When dry, the fabric or cloth so treated, will repel rain and moisture, but allow the air or perspiration to pass through it.

"The alum, gluten, gelatine, and soap, unite together, and form an insoluble compound, which coats every fibre of the textile fabric, and, when dry, repels water like the natural oil in the feathers of a duck. There are various substances which are soluble in water singly, but when combined form insoluble compounds, and *vice versa*. Alum, soap, and gelatine, are soluble in water singly, but form insoluble compounds when united chemically. Oil is insoluble in water singly, but combined with caustic, soda, or potash, it forms a soluble soap.—Such are some of the useful curiosities of chemistry."

From the American Veterinary Journal.

HORSE-SHOES MUST BE BEVELLED ON THE GROUND SURFACE.

An iron shoe tacked on to a horse's foot, is one of the unavoidable evils of domestication, yet when properly applied is not so great an evil as some persons might suppose. One of the objects in applying the shoe, is to preserve the natural concavity of the sole of the foot. A horse in his natural state, and, indeed, up to the period of his first introduction within the precincts of the "smithy," has, generally, a concave sole : and wisely is it so ordained ; were it otherwise, the animal would be unable to secure foot-hold ; as it is, the inferior edge of the hoof—that is, the ground surface—projecting beyond the sole, may be compared to the point of a cat's claw, or the nails of a man ; they grasp, as it were, bodies with which they come in contact, and thus secure a point of resistance, which aids in advancing limb, or body, over a smooth surface. Now, in order to preserve the natural mechanical functions of the horn and sole, the ground surface of the shoe must correspond to the ground surface of the foot : that is to say, the ground surface of the shoe must be bevelled, cup fashion ; its outer edge being prominent, takes the place of the hoof : its inner surface

being concave, corresponds to the natural concavity of the foot. It is a custom among some blacksmiths, to reverse the above procedure, and place the concave surface next the foot ; and often, the ground surface appears to be more *convex* than concave. In justice, however, to that much-abused individual, the shoer, (who is not always at fault,) we remark, that often he is not allowed to use his own judgment, for, as some people believe, "anybody can *Doctor!* a horse ;" so an equal number have an idea that they know all about *shoeing* him, and men will often stand over the smith, and direct him as to the form of shoe and manner of securing it to the foot.

Notwithstanding men's various opinions on the general art of shoeing horses, we think that all will sooner or later agree with us, that a bevelled, or cup-shaped, ground surface is the best. We care not what may be the form of the foot, whether it be high or low heeled, contracted at the heels, lengthened or shortened at the toe, or having a concave or a convex sole : it is all the same. The ground surface must always be *concave*. In every other part of the shoe improvements and alterations are suggested, and, indeed, required in consequence of the ever-varying form and action of the horse's foot under the state of health and disease ; but, on the inferior surface of the foot, we are presented with a pattern for the ground surface of a shoe, which no man can ever improve on, and if we were to follow that pattern more closely, there would be fewer accidents in *falling*, and less lame horses.

SUBSOIL PLOWING.—May we again remind our readers of the advantage of subsoil plowing, and refer them to our former articles for a more particular account of the rationale. The use of the subsoil plow does not elevate the subsoil to the surface, and thus removes the only objection ever urged against its use. It does permit the atmosphere to enter the soil to a greater depth. It enables the roots to travel through larger portions of soil, and thus come in contact with the greater amount of food. It prepares the subsoil for future elevation and admixture with the surface-soil, thus deepening all of our soils. It does away with sourness of soil. It prevents drouth, by enabling the atmosphere laden with moisture to come in contact with cold surfaces on which it will be deposited by condensation. No well subsoiled field ever suffered from drouth. No subsoiled meadows ever run out. For, until roots are brought in contact with cold and undisturbed subsoil, their crowns can never cease to tiller, and thus replace such crowns as may be broken by cattle's feet while pasturing. Old meadows may be subsoiled without turning over the sod, lifting the whole field half an inch, suffering dead roots to decay, and new ones to form, admitting atmosphere and moisture, and regenerating the growth, so that ordinary top-dressing may cause new vigor.—*Working Farmer*.

We should manage our fortune like our constitution—enjoy it when good, have patience when bad, and never apply violent remedies.

To destroy rats—Catch them one by one, and flatten their heads in a lemon-squeezer.

The Farmer and Planter.

COLUMBIA, S. C., JUNE, 1859.

HINTS FOR THE MONTH.

The Spring has been a very unpropitious one for the planter. An excess of rain has been followed by high, drying winds, foolish clear-offs, unlooked-for frosts, and destructive hail-storms.

The storm of the 22d April was followed by a severe frost, which has done much injury throughout the cotton belt; its effects seem to have been more severely felt even in the far South-West than in the higher latitudes along the table-lands. The rich alluvials of the South-West have again been submerged, and ruin spread throughout that new "El Dorado," which has drawn so much of our life-blood from us, in a few years past, to fill the markets of the world with cotton.

From our present stand-point, we should say that the prospect of the cotton crop for 1859, was gloomy; but there is no plant belonging to the vegetable kingdom of whose future so little can be predicted, from its present, as "King Cotton." The experience of the last year cannot fail to convince every one of that fact. But let the production be what it may, there will, doubtless, be a ready demand for all we can make, at remunerating prices. The time seems to have gone by when the cotton-market can be glutted.

The small-grain harvest will now be upon us.—Wheat harvest should be begun as soon as possible; do not wait until the grain is ripe. It is well to allow the seed wheat to become thoroughly ripe, but that intended for flour should be cut before fully ripe; it will yield more and better flour. Have your sheaves well bound and carefully "shocked;" and, if possible, have it housed before a drop of rain falls upon it. When a crop is made, there can be no good excuse for losing it by negligence.—There are few things in housekeeping about which one's "better half" is more sensitive than her flour; and a man who will let his wheat have smut, or stand in the field until it is blackened by exposure, deserves to be treated to blue biscuit at breakfast. As soon as possible thresh out your wheat, sun it well, and sprinkle a little lime amongst it when put in the bin—it is a sure preventive of weevil.

The sooner you begin to cut oats the better—the greener it is cut the more nutritious, and the more it will be relished by your horses. There is no better food when cut up. Take care of your wheat and oat straw, it is capital food for horse or cow; and if

you should not need it, it will supply you with valuable Spring litter.

Corn and peas should now receive a good working, for, in all probability, the harvest has forced you to neglect them.

As soon as the cotton begins to branch and make forms, nature unmistakably points out the propriety of keeping the plow away from the plant, as far as the grass will let you, and using as superficial culture as the soil and seasons will permit. The roots of a cotton-plant can always be measured by the character of its branches; and common sense would teach any man that the less interference with them the better; but the grass must be killed, and one is frequently forced to pursue a course inconsistent with his own opinions, by the outward pressure of circumstances.

Stock.—Keep an eye to your horses. As the heat of the weather increases reduce the amount of corn, and feed on oats, cut up well. Salt and ashes, or salt and lime, should be regularly given to horses, cattle, sheep and hogs. When your harvest fields are open, turn your hogs upon them, but do not allow the hoof of another animal to go upon them until the earth is covered with a good matting of grass.

THE CULTURE OF RUTABAGA TURNIPS.

June is the month to prepare the land to receive this crop. A successful plan with us, has been, to select a field of mellow, sandy soil, resting on a clay subsoil, which we regard as most congenial to this crop. Stubble land, properly ploughed up, is as good as clean fallow. As soon as the wheat or oats is harvested, and with the first good season, we plough the soil deeply, with a two-horse plough—ten or twelve inches is not too much, if that depth can be attained. Unless the soil is thoroughly stirred and prepared, it is useless to attempt to grow good Rutabagas. Therefore, prepare the land well, by ploughing, crushing, and harrowing, and, if a single effort does not put it in proper tilth, repeat it with plough, clod-crusher and harrow, until the soil is finely pulverised and mellowed up, so as to be a fit bed for the delicate plants. After it is thus prepared, spread all the manure of all kinds, which you can command, broadcast over the field. Ashes, coal-dust, chip-manure, mould from the woods, well rotted compost, and even stable manure, which has not too much long straw incorporated with it; in fact, everything which is not calculated to incommode the sprouting plants, is good manure for turnips. All plants of this kind are grass-feeders, and land cannot be overdosed with fertilizers which are not caustic in their nature. After this liberal treatment, cross-plough the land with narrow bull-tongue or twister-ploughs. If this ploughing brings up clods, or roughens the land in any place, apply to such spots the harrow and clod-crusher, for the cultivation

must be chiefly performed in the preparation of the land. Then draw the rows with a long shovel-plough, twenty inches apart. Apply one hundred pounds of Peruvian guano, fifty pounds of salt, and one hundred pounds of bone-dust, (or one hundred and fifty pounds of *genuine* super-phosphate of lime, in place of the bone-dust,) thoroughly incorporated with coal-dust, to the acre in the drill. Bed on this—after which lightly knock off the top of the ridge with a board, and drill one-and-a-half pounds of seed per acre with a seed-drill. For small quantities, and when a seed-drill cannot be had, insert the barrel of a goose-quill into the cork of a small bottle.—The seed in the bottle should be mixed with dry ashes, and then may be regularly drilled by a peculiar jerk of the hand easily acquired, taking care to note that the proper quantity is sown. Select a seasonable time or showery weather to sow the seed.—If the stand is irregular, replant early; and later, thin out thick spots, and transplant. We use for this purpose a round, sharp stick, to make a hole for the taproot. This being the only root of service to the plant, it should be preserved, if possible. If the plants are large, the leaves should be cropped, when transplanted, and they should be grouted or puddled, in a thin mortar of good mould. Be sure to plant them no deeper than they originally stood in the row. If the crown of a plant is covered, it will never make a good bulb. The only cultivation is thinning out to ten inches in the row, running a furrow on either side, and scraping down the beds, so as to leave the plants somewhat exposed, and even dangling by the taproot. Scrape away the grass and weeds, whenever these pests appear, *but never put dirt to the plants*. Three weeks after sowing them, as above directed, run a single furrow between the rows, with a short shovel-plough, but be careful to have it of a proper width, so as not to throw the dirt against the bulbs. The best of a turnip is always above the ground, and the plants should be encouraged to bulb out, by having no obstructions placed in the way of this habit. This culture will so rapidly advance them, that by the middle of September, they are out of the way of grass and weeds. Sow Rutabagas as early as you can, after the fifteenth of June, and do not despair of raising a good crop, if sown as late as the twentieth of August. It is a plant which more resembles the cabbage, than ordinary turnips, and, hence, the longer period given to its growth, the more likely to become large and fine. During the past season, the Winter was so mild that our Rutabagas grew on till the first of February. An important consideration, is good seed. We always plant English seed, which we consider the best, and invariably test their vitality previous to sowing.

*

SOLID APPRECIATION.

The City Council of Columbia have, we are pleased to state, resolved to give a new and most gratifying evidence of their appreciation of the benefits the city derives from the annual Fairs of the State Agricultural Society. It has made the liberal appropriation of \$3,000, to erect an amphitheatre upon the Fair Grounds. Such a building has been very much needed, and there is no one thing, we are sure, which will add more to the comfort of the visitors, and the interest of the exhibition.

We give to the liberal and spirited administration which now presides over the city, a hearty "well done," and feel satisfied that they could have made no investment which will pay better. It has handsomely rubbed out the only embarrassment that has ever occurred between the city and the Society, and, henceforth, after this *entente cordiale*, the one may be considered a part of the other.

FUTURE SUPPLY OF RAW COTTON.

We would call the attention of our readers to a very interesting extract from "WILMER & SMITH'S *European Times*," upon the "future supply of raw cotton," for the wants of the world.

Our cousins over the water are beginning to find out that we have other customers than themselves, and that they may have competition in more countries than one. The immense increase in the demand for raw cotton, on the Continents, has quite upset their equanimity, and albeit they may think we are excellent fellows, and furnish them "with all they require in quality"—still we can't begin to supply their demand, and they hope we won't take it as disrespectful if they try to make a better bargain. How complaisant John Bull becomes when he is not master. The fact is becoming apparent to the dullest comprehension, that cotton production cannot advance upon consumption, as things now stand.

The cotton-producing area is marked out by certain "metes and bounds"—the number of laborers adapted to its production cannot increase equal to the demand for them. Some people are under the impression that the introduction of guano, and other concentrated fertilizers, will swell the production of the older States to a very remarkable degree. We have no such belief; the illiberal policy pursued by most of our railroads as to the transportation of fertilizers, will always make them cost too much in the interior, to make the investment a profitable one.—The growing uncertainty of the seasons in the higher latitudes, and the ravages of worms and caterpillars in more southern regions, will always serve as checks upon production.

In looking over our exchanges, from all parts of

the South, we find the storm of Friday, 22d April, was one of the most violent and extensive that ever swept over the country. Hail, rain and tornadoes marked its path, followed by a severe frost, on the 23d, which seems to have been more destructive in the southern latitudes, than farther north. In Texas, it is confidently stated that the cotton crop will be cut off fully one-half. The floods in the Western waters must also affect the crop; and with the best lights now before us, we will be most fortunate if the crop of 1859 comes up to 1858—and no one can doubt every pound of it will be needed, to supply the world's wants. We should not lose sight of the fact, that the consumption in the United States must increase wonderfully. Yankee ingenuity is daily converting cotton to all manner of purposes—it is usurping the place of wool, flax, silk and fur. Our hats are cotton, our linen is cotton, our silk gloves are cotton, our broad-cloth coat is cotton, our patent-leather is cotton—and a thousand other things, yet to be discovered, can be made out of cotton—so when supply begins to press upon demand, greedy consumption will always find some new means as a safety-valve to relieve the pressure. Cotton has become second nature—the civilized world cannot afford to do without it.

All our dealings with the Old World are based upon it—the sails of commerce could not be unfurled without it—the banks, the money-changers, and the Government itself are dependent upon cotton. The revival in business at the North, the increased importations of goods, and the general reaction in business, is attributed, by Northern writers, even, to Southern prosperity. The three million bales of cotton to be shipped to the Old World, is just that much gold and silver to pay our debts, or be converted into merchandise which we need, and which our foreign customers can produce lower than we can afford to do it. In despite of all the iniquities of Government rule toward the South, we are, at this moment, the most prosperous people under the sun; and this prosperity depends upon the soundness of our position. Our staple the world must have—our labor is the most quiet, certain, and sure to produce the same results; our climate is adapted, better than any other part of the world, to the development of the cotton-plant, and the negro laborer. We are a rural people, not given to land-speculations, stock-jobbing and financial experiments. If Government would let us alone—"the child's bargain"—we would have no reason to fear for the future.

LAWNS.—Downing says, "the best mixture of grasses we can recommend, is a mixture of red-top and white clover—two natural grasses found by almost every road-side—in the proportion of three-fourths of the former to one-fourth of the latter.

MR. HENRY'S SPINNING MACHINE.

The editor of *De Bow's Review* says, concerning the invention of GEO. G. HENRY, of Mobile:

"The matter is no longer an experiment. Many planters have adopted the process the present season, and have ordered the necessary machinery.—Others are preparing very soon to enter the field.—We have ourselves seen the yarn purchased from a plantation where the machinery has been in action, in handsome mercantile condition, and of the most superior quality, by one of our wholesale houses, and learn that the market for it in New Orleans is unlimited. It will be purchased as fast as received. We sincerely commend this great matter to the attention of the planting community, as one by which it is demonstrated they double at least the net revenue of their estates."

How often do we see it the case that one has their hand almost on fortune's golden prize, and fame's trumpet in their hand, yet did not quite seize the bauble. Old-time folks will well remember the little spinning machines that used to stand in the old farm-houses in the country, where the cotton was put in, in the seed, and came out thread. This invention, which has almost been forgotten, has been improved on by Mr. HENRY, of Mobile, and is destined to exercise a wonderful influence over the cotton interest. In fact, it places the planter upon a very independent ground: it widens his sphere of operations, and enables him, if supply presses on demand, to divert his labor into a channel which widens his margin for profits, while it does not increase the supply. If the scheme be practicable—and some of the most practical planters declare it to be eminently so—Mr. HENRY's invention will prove one of the greatest blessings ever bestowed by human ingenuity, and not the least of our pride should be, that it was achieved by a Southron.

For the Farmer and Planter.

"MAY BUTTER."

MR. EDITOR:—I trust that our good housewives will not forget to keep an eye on the Premium List, and improve upon their annual contributions to the Fair. The interest of the exhibition, attractive as it is, would fall very short of meeting public expectation, without the varied evidences of their skill and taste, which they so well know how to exhibit. I wish that some way could be devised of extending the variety of articles, so as to embrace a larger field. The Executive Committee have improved the list wonderfully, and on the head of Butter—a thing so much relished by everybody, when good, and so much wanted—I hope that it will not be forgotten that Mr. Janney, of the Congaree, has offered a \$20 Goblet for the best twenty pounds of butter to be exhibited at the Fair. This is a striking evidence of his appreciation of the benefits of this annual festival.

P.

For the Farmer and Planter.

RAILROADS AND AGRICULTURAL DEVELOPMENT.

MR. EDITOR:—The increase in the cotton production of the old States, during the past year, has given rise to the belief, that it is to be attributed to the use of guano. I am not prepared to deny the assertion, but I am sure that neither guano or any other costly and heavy fertilizer, can ever be profitably employed by the planter remote from the seaboard, as long as the present railroad tariffs are kept up. As the regulations now are, no one but those living at the extremes of continuous railroad lines can afford to use guano.

If the planter is compelled, as is often the case, to use sections of two or three different roads, the tax is intolerable. Upon Northern railroads, and in Europe, concentrated manures are carried for a price merely nominal, upon the calculation that they will pay back in increased freights and business, by their development of the country's wealth. Our railroads seem to have no idea of any such system. Is there any justice in charging as much for freight on twenty miles as on forty, or on fifty miles as upon one hundred and fifty? And, if the charge amounts to a prohibition, why not tax all alike? I know it is useless to talk about this matter, for they will do as they please, any how—they have the power, and they will use it. I am no guano believer, but would like to see its virtue fairly tested.

But, if railroads are ever to play the important part in developing the resources of this country, as they have done elsewhere, a more liberal policy must be adopted. A hogshead of bacon can now be transported from Cincinnati to New York, over the Little Miami and Columbus, Xenia, Cleveland, Columbus and New York Central railroads, at thirty-five cents per hundred pounds; and from New York to Charleston, by packet, at one dollar per hogshead. It does not cost half a cent per pound, to transport it from Cincinnati to Charleston, a distance of sixteen hundred miles, although it passes through half a dozen different companies. I could cite other cases as much in point, but it is unnecessary, for railroad companies in South Carolina have become too proverbial to hope for any reform in this direction.

One cannot but hope, however, that a day may come, when something like *ad valorem* tariffs may be imposed by them; and when lines connected shall be governed by some other rule than that of shaving one another. It is no uncommon thing for the freight of one's goods to cost more than they are worth, after passing through two or three little railroad branches. A sack of salt may be bought in Charleston for seventy-five cents, and to get it as

high up as Laurens or Clinton, will cost one dollar and twenty cents. There is a screw loose somewhere in South Carolina. The Georgia Railroad manages things very differently, and makes more money. Don't this talk sound like

AN OLD WAGONER.

For the Farmer and Planter.

COTTON.

Charleston, S. C.

MR. EDITOR:—I have been looking around town among the cotton factors, picking up bits of information, which you may appropriate *pro bono publico*, if you think it worth the space it may occupy in your journal.

I was surprised to see such a variety of samples of cotton, from the back country, on the counters—and still more surprised, by the facts developed by handling. "Here, now," says the factor, "is a sample of cotton of good staple, and fair enough—but (striking it on the counter) see the dirt that is in it—that will operate against it, and when cotton is *dull*, very much. Now, here is a sample with a good many black specks, particles of leaves, in it; they will not affect its sale much, if the staple is good, because they have machinery which will clean it. Here is a sample very much napped by the gin—see now and then a point of the seed off—you can hardly sell such cotton, when the demand is slack. Here is a lot of 'Jethro'—fine article—would bring 13½ cents to-day. Look at the staple, how it draws out, and how free from all the imperfections of ginning and handling.

"Now, sir, here is a beautiful looking sample—white as snow, and without a blemish; but examine the staple—it has none. I have noticed that nearly all the cotton grown, during the drouth last year, as well as the first picking of cotton, was generally deficient in strength and length of staple. Now, here is a sample of very badly stained cotton, picked out after the storm, last Fall; look at the staple, how much better than the white (all from the same plantation), and yet in the back country, the planter did not receive by a cent, as much for this, although it is the best article. Now, I could not sell that sample of white to an *English* buyer; the first thing he looks at is the *staple*; it must have that to answer his purpose; then its freedom from napping, then color. A Continental buyer would always select the white; the color makes all the difference in the world with him. I am satisfied that a reasonable painstaking in the handling of cotton will pay very well, and a good gin will soon pay for itself, although planters generally think otherwise."

From the foregoing notes, Mr. Editor, you will perceive that the cotton-buyers made, and the planters lost, last year, by bad management, somewhere.

You will conclude with me that there is a great deal in the handling, in the ginning, and in the selling, and you may guess how much is done blindly, when a planter is forced to sell an article for a cent below its market value, because he don't know that he has a good staple, and that its being a little soiled did not detract from its value. In fact, the planter generally knows very little of the *rules* which govern those who direct his interests. The fortunes made between the plantation and the ship-board show that a good deal is dropped by the way.

HIBISCUS.

For the Farmer and Planter.

In common with many other readers of the *Farmer and Planter*, I confess to a considerable curiosity as to who are its conductors; and would be truly thankful to any one, who would be so obliging as to give me the name of the real boss, the head cook of the concern. As to him of the *, I cannot be mistaken in supposing that I have "read after" him before, and that not a little. The peculiar style and diction of his contributions are ear-marks that disclose the man with as much certainty, as his own proper sign-manual would. With the dash and sparkle of the mountain streamlet, he gives life and zest to even the dullest subject which he deigns to touch with his diamond-tipped pen. There is none of your John-farmishness about him, but with his theme in hand, away he rushes from all commonplace "*ad astra, ad astra.*"

But the Editor, who is he? Can no one tell us? Mr. Stokes, it would appear, does not intend to do so, although some time since he excited our sympathies for the *unknown*, by informing us of his indisposition. As no other means of solving the enigma seems probable, under the circumstances, it is to be hoped he will be recovered sufficiently to allow us to hear from him soon, so that we may be able, at least, to exercise the Yankee privilege of guessing at him. In fact, we have already been trying on said privilege a little, but as yet the foot-prints are too faint to enable us to trace him with certainty.

Meanwhile, the *Farmer and Planter* is very much to our taste, and exhibits many hopeful indications of a still greater improvement on the old order of things. We can, consequently, wait with the more patience for the future development of this editorial mystery.

One word, however, in the ear of Monsieur *Incog.*, before we leave him: He must not expect to play off any more of his modern Junius humbugging upon us, for should he attempt that game, I will instigate Broomsedge, that terror of all *humbugs*, to look him up with a sharp eye and sharper pen. And I guess he knows better than abide that ordeal.

VERB. SAT.

For the Farmer and Planter.

MR. EDITOR:—Your * writer, in the April number of the *Farmer and Planter*, under the head "AGRICULTURAL HALLS, &c.," has, inadvertently, no doubt, done the Pendleton Farmers' Society injustice; and, with your permission, I will endeavor to set him right. He says, "The Pendleton Society have a fine Agricultural Hall in the old Court House, left to them upon the formation of the new districts of Pickens and Anderson. But it is left to Lexington to take the initiatory in this matter." Not quite so fast, Mr. *. [Allow us to give you a "small bit" of the history of the Pendleton Society, which was organized in 1815, and shortly after purchased a house in the village of Pendleton, which was converted into a Hall, in which the meetings of the Society were held, up to the time of the division of the District, when the Society, having increased considerably in the number of its members, sold out their old Hall, and purchased the Court House, which was afterwards known as the Farmers' Hall, in which their meetings were held, as were also the meetings of the Pendleton Jockey Club, up to about the year 1840 or 1841—I am not certain as to the exact time—when the Jockey Club was dissolved, and made a donation of their track and lands to the Farmers' Society. This liberal act of the Club enabled the Society to raise funds nearly sufficient, with such materials of the old hall as would do to work in, to build a *new hall*, which was erected in 1842, according to the recollection of the writer, who was then, as he is now, a member of the Society, and took some interest in the matter, as he has at a more recent date, in converting the offices, at first fitted up in the basement, into a handsome store-room, which is worth, to the Society, one hundred and fifty dollars a year rent.

This, Mr. Editor, was probably the *first* Agricultural Hall built by any Society in the State. It stands in the public square of the village of Pendleton, a worthy example long since set to other Societies; and, if your * writer will do us the honor to attend our next July or October meeting in it, we will give him a hearty welcome and a good dinner, and "trimmings" to boot; but we cannot allow him to award the palm to our sister Society in Lexington for taking the "initiatory" step in building an Agricultural Hall in the State. Though it is admitted Lexington is entitled to much credit in following, even at so late a date, the good example set them by the Pendleton Farmers' Society, *which has owned no less than three halls*, one of which she built.

I do not know, Mr. Editor, who your * is. I presume, however, he is one of your assistant corps of editors; and if so, I the more regret to see his fling at that "Batch of Agricultural Colleges." When

editors of agricultural papers take a position adverse to agricultural education, what are we to expect from others? And what are our hopes for any future amelioration of our present low-down condition?—But your * may deny that he is opposed to agricultural education, or to the means of obtaining such. He only fears in this measure “a clap-trap plan to encroach upon the legitimate receipts of the treasury,” &c.; that “it was simply a scheme to cripple the finances of the nation, in order to shackle the people with a high tariff;” and goes on to say, “Agricultural education by States, or by individual endowment, is another issue. To any such scheme, feasible and well devised, we are ready to give unqualified support.”

All very good, but who ever heard, or expects to hear, of the endowment of an Agricultural College by South Carolina? But here comes the gist of the whole matter. “Let the rural men of the age have more light—more scientific information. Build a school-house in every beat and township—but *let the people build and endow them.*” Yes, let the people build and endow their school-houses, and *enlighten themselves*—that is coming at it. Allow of no “Federal encroachments”—accept nothing at her hands. Let her keep her lands for squatter sovereignty—for precious little of the proceeds will ever in future find its way into the public treasury, to ward off a tariff.

I have said much more on this subject, Mr. Editor, than was intended at my outset; but I consider it a legitimate subject for your paper, and trust I have said nothing to offend your *, or any one else; and, in conclusion, must say that I am gratified to find that all agricultural editors do not exactly agree with your * writer in the following declaration:

“The country owes a vast obligation to the President for his firm and prompt veto of the nefarious scheme.”

Hear Dr. Cloud, of the *Cotton Planter*, April number, pp. 132-3. “* * * The Agricultural College Bill, which passed both Houses of the late Congress, and which, to say the least of it, possessed all the merits that any of the *Railroad, Soldier, or Educational* land appropriations—so characteristic in the late history of Congressional legislation in this country—could possess, even *Constitutionally*, was the conception of a wise policy—a policy that looked to the best interest, purely, of the productive industry of the country—the whole people.” Again: “There is no present necessity that we engage now in discussing the merits of this bill, or the great objects contemplated in its wise, patriotic and munificent provisions. We shall devote a reasonable space, in subsequent numbers of this Magazine, in laying before our readers such information as the importance of the case may indicate.

“We have before said, and we again repeat it, in short, that to us it has appeared most extraordinary that this measure should have met its strongest opposition from Southern men in Congress,” &c.

And it has not been much less a matter of surprise to many others in the South; but we suppose they must have discovered that great bugaboo of a tariff ensconced in its fold, which has not evaded the keen eye of your * writer.

No one, I presume, will accuse Dr. Cloud of being in favor of a protective tariff. And, if agreeable, Mr. Editor, not only the writer, but many other of your readers would be pleased to see the whole of his remarks from which I have quoted, with an appended paragraph, on the same subject, from the *Country Gentleman*—appear in the *Farmer and Planter*.

I much desired to make other quotations, but must be content with a short one from the *Valley Farmer*, published at Louisville, Ky. The editor, in speaking of the passage of the bill, by both Houses of Congress, and only requiring the signature of the President to become a law, says: “But, in the exercise of this one-man power, this important measure, in aid of the great interests of agriculture, has been killed by the President’s veto.”

I desire and intend not to enter into any further discussion of this, to every agriculturist of the country, important subject, but would be much pleased to hear others on it. S.

For the *Farmer and Planter*.

GUANO.

MR. EDITOR:—I have heard the assertion made, more than once, that the increase in the cotton crop of 1858, is mainly to be attributed to the introduction of guano, and other concentrated fertilizers. I am not inclined to subscribe to the opinion. It may have had some effect, but the immense floods in the western rivers, and unfavorable season, to my mind, had more to do with it.

The use of guano may lead to very important improvements in our agriculture, but I cannot bring my mind to the conviction, that the application of one hundred pounds per acre, of a manure containing little else but ammonia, can continue to increase production, without a corresponding exhaustion of other properties of the soil, equally essential to the rapid development of plants.

I am free to confess that I am satisfied it will pay better on cotton than anything else, because cotton exhausts the soil less than any plant grown upon it, perhaps. If we would return the stalks and the seed to the soil, and could protect it from the leaching of rains in the Winter, and the wasting storms of Spring, the deterioration of the soil would be hardly perceptible. But these things will not be done, so

long as cotton-planting is the exclusive business of the planter. If we could believe that the introduction of guano would lead to a system of farming by which less land would be cultivated, and cultivated upon higher principles—as an investment for the future use and benefit of one's family—we might have more confidence in the virtues of this wonderful fertilizer.

If it would convert barren fields into green pastures, fill up gullies, keep the ruthless hand of the destroyer off the forests—now few and far between—if it would give us more grass, more cattle, more horses, and more hogs, and thus enable us to make more manure, and live more within our own resources, we would say, Give us more guano. But, as things go, more guano—more cotton—more land—more negroes—and more cultivated to the hand—I have no great faith in any very remarkable revolution in our husbandry, to benefit posterity or increase our independence.

A DOUBTER.

For the Farmer and Planter.

The Patent Office Report of 1857 has reached us at last; and, although late, is none the less welcome. The present volume—as far as I have yet had time to examine its contents—is composed of matter of a higher grade than its predecessors. Many of the Reports are of great interest, and afford important information on several interesting subjects. The contributions of Mr. BROWNE himself are such as do great credit to his zeal and industry in the cause of agriculture and its cognate subjects. And, although the space which he has allowed himself for their discussion was too limited to enable him to elaborate, to an extent desirable, to those already conversant with them, still, what he has attempted, is well done—pithy, and to the point—and they will afford, in many particulars, safe and accurate rules for the guidance of a number of persons who can have little access to other means of instruction. And such, I presume, was the principal aim of Mr. BROWNE, in the getting up of this “Book for the People.”

But the most striking object of remark about the book is the name—“A Patent Office Report”—in which not a “Patent” is even alluded to. What a glaring misnomer would this appear to any one unacquainted with the mysterious workings of this glorious United States Government? Reared and supported, almost exclusively, by the agricultural interest, that interest has not *interest* enough with its creature to have its name given to what emanates from the only little Bureau which it has any title to claim as belonging to it. And thus, year after year, have the agriculturists of the country submitted to see themselves slighted and overlooked. And even this little aid has, from first to last, been smuggled

to them, under the title and name of a different department of industry—the Mechanical. Yes, we have been compelled to resort to the fiction of Patent Rights to get a few seeds, &c., &c., and directions for their cultivation. This is a sad condition of things, but yet, remedy for it do I see none in the present posture of affairs, and would be quite willing to compound for just being let *alone*, if so be there could be only the hope of its being so.

In the meanwhile, our thanks are, most certainly, due to Mr. BROWNE, for what, under the circumstances, he has done for us; and, instead of censure for what he has not been able to effect, with his evident zeal in our favor, we should do justice to his motives, and to the rare ability with which he has used the very limited means at his command; and, as a mark of our esteem, I would suggest his name as an Honorary Member at the next meeting of the State Agricultural Society. JUSTICE.

For the Farmer and Planter.

CUTTING TIMBER IN SEASON AND OUT OF SEASON.

MR. EDITOR:—In your last number I made some remarks in connection with the above matter. I beg leave to call the attention of your readers to it again. It is a thing not of to-day, but of many days to come—of growing importance and immediate concern to everybody—how we shall save our timber.—It does not take a very far-sighted philosopher to see that a time is not far off when board-trees, fence-posts, and all sorts of valuable farm timber, will be out of our reach. You may talk about re-foresting the country—you may ornamentalize the country by starting into life a new growth; but it will take a century to get up a growth of White-Oak, Post-Oak, Red-Oak, Walnut, and such trees as we need for farm uses. We had better try to take care of what we have.

I would like to interest the practical observing farmer or mechanic in this subject, and get up a systematic series of observations. Let me beg all gentlemen who think they know anything that will throw light upon the subject, to come out and give us the benefit of their experience. It is very probable that people will differ in their opinions, but, by comparison and discussion, some truths may be elicited valuable to our interests.

Since writing my last communication to you, I have made some further observations. During the month of August, 1851, I had Post-Oak posts cut for a garden. They were hewn in March, and charred to about five inches above the ground. I finished the garden on the 19th of March, 1852.—There were wanting three posts to complete the line, and I sent a boy into the woods to cut them; one was charred, and one of the other two was put in

the ground reversed. On the 18th March, 1859, a heavy gale passed over my farm, and the line of garden-paling last finished was blown down. Upon examination, I found the three posts last inserted completely rotten—the very heart was in a state of decay. I could see no difference in favor of the charring or inverting worthy of note. This induced me to examine all the other garden-posts. I found the sap generally decayed, but the heart sound.—The charring seemed to have delayed, but not prevented, the decay of the sap wood.

I have Post-Oak gate-posts now standing, which were put in the ground seventeen years ago; the heart is sound yet, while other posts, cut at different times, have completely rotted in half the time, all things being equal in the way of exposure or situation. Cannot your practical and observing correspondent, "Laurens," throw some light upon the subject.

A BACKWOODSMAN.

From the Abbeville Banner.

AGRICULTURAL MEETING.

At a large and respectable meeting of the citizens of this District, held at the Court House, on last Sale Day, on motion of Capt. J. Brownlee, Col. J. F. Marshall was called to the Chair, and W. C. Davis requested to act as Secretary.

Upon taking the Chair, Col. Marshall addressed the meeting, explaining, in a summary way, its object, and forcibly advocating the propriety and necessity of forming and maintaining an agricultural society in our midst.

Upon motion of Capt. John Brownlee, a committee of five was raised for the purpose of drafting a Constitution, and nominating suitable persons for officers for the Agricultural Society.

The Chair appointed Capt. John Brownlee, Gen. A. M. Smith, Robert C. Gillam, Dr. J. J. Wardlaw, and James Creswell.

After a short absence, the Committee submitted a Constitution, which, after several amendments, was adopted. They also reported names of suitable persons for officers for the ensuing year.

The following is the Constitution, as adopted:

CONSTITUTION OF THE AGRICULTURAL SOCIETY OF ABBEVILLE DISTRICT.

Sec. 1.—The Society shall be established for the development of the agricultural, manufacturing and mechanical resources of this District, and shall be called the Abbeville District Agricultural Society.

Sec. 2.—Any citizen of this or the adjoining Districts, upon the payment of one dollar, shall become an annual member, and be entitled to all the privileges and benefits of the Society; or, upon the payment of the interest on fifteen dollars, annually, shall become a life member, and be entitled to all the benefits and privileges of the Society; and, upon the refusal or neglect to pay said interest, the principal shall become forfeited to the Society.

Sec. 3.—Any person not a member of this Society, upon the payment of two dollars, shall be entitled to exhibit stock or produce, at the Annual Fair—Ladies excepted, who are entitled to exhibit free of charge.

Sec. 4.—There shall be elected, by the Society, at the annual meetings, a President, two Vice-Presi-

idents, an Executive Committee of seven, of whom the President of the Society shall be one, and a Secretary and Treasurer.

Sec. 5.—It shall be the duty of the Executive Committee to make all necessary arrangements for the Annual Fairs—which shall be held at Abbeville Court House—arrange the Premium List, appoint the Committees, the Annual Orator, and attend to all other business necessary for the carrying out of the objects of this Society,

Sec. 6.—That the Executive Committee shall have power to call an extra meeting of the Society, whenever, in their judgment, they may deem it necessary.

Sec. 7.—This Constitution may be amended by two-thirds of the members present, at any regular meeting.

The following officers were elected for the ensuing year:

President—Col. J. Foster Marshall.

1st Vice-President—Capt. John Brownlee.

2d Vice-President—James Creswell.

Executive Committee—Maj. C. W. Sproull, Dr. J. J. Wardlaw, Col. D. Wyatt Aiken, A. C. Hawthorn, Esq., Col. H. H. Harper, Capt. D. M. Rogers, Octavius Porcher.

Secretary and Treasurer—W. C. Davis.

On motion of Mr. R. H. Wardlaw, the meeting adjourned.

J. FOSTER MARSHALL, *Chairman.*

W. C. DAVIS, *Secretary.*

CARROTS FOR FEEDING POULTRY.

I have never seen anything in your paper recommending carrots as food for poultry. I feed them to my fowls every day, and find it profitable to do so.—In the present high prices of grain, &c., it is worth while for people to use any substitute that will answer the same purpose. I venture to say that those who have fed their fowls on carrots, chopped fine, will not readily discontinue the practice.—The chopping is most easily done with a common sausage-cutter, costing about three dollars. These machines will pay their entire cost, in most families, in a single year, in various labor-saving ways. A couple of boys, in a single evening, could easily cut a barrel-full of carrots, which, if fed to hens, mixed with meal, scraps, &c., would be worth much more than the same value in grain, at present prices.

At the conversational meeting of exhibitors at the last National Poultry Show, carrots were recommended for general use, as better than anything else for laying hens; "chemically considered," it was said, "they contain more of the substance necessary to form eggs than any other food." One of the speakers went so far as to assert that one bushel of carrots contains more food than a hundred cart-loads of turnips. This may be a few cart-loads too many, but I think their value, as an article of food for almost everything in the farmer's barn and barn-yard, or his family, even, is not generally over-rated, else we should see more of them raised.

One reason, doubtless, why no more are grown is, the labor and expense necessary to raise a good crop. I think the usual method of raising carrots can be improved, so that the crop need not cost more than one-half what it now does. In my own practice I have managed to dispense with a good deal of labor, which I once thought necessary, and I still think there is room for improvement.—*Rural N. Y.*

Horticultural and Pomological.

WILLIAM SUMMER, EDITOR.

WORK FOR THE MONTH.

As this month is usually hot and dry, very little planting can be done. The principal work requiring attention, is, to stir the ground well around the various crops, and to keep down all grass and weeds. Melons and Cucumbers will require frequent workings, and this should never be neglected after a season. The earth is left loose and permeable, and the vines will grow off luxuriantly. Should the striped bugs prove troublesome, hoe in a little Peruvian guano, or super-phosphate of lime, around the plants, and it will arrest their ravages. Water *Cucumber* and *Melon* vines, if the weather should prove dry. Plant for a succession.

Should the previous sowings of *Cabbage* seed have failed, do not neglect to sow *Late Flat Dutch*, as they will be fit to transplant the next month. Continue to plant sprouts and cuttings of *Sweet Potato* vines. Those planted this month, and especially of *Yams*, will make the finest and best-keeping potatoes. A few *Early Dutch Turnip* seed may be sown towards the end of this month. *Carrots* and *Parsnips*, as well as *Beets*, will require good workings. Stake *Lima Beans* with good poles, if this has not been attended to. A few *Okra* and *Tomato* seed may be sown to keep up a succession, and to continue in fine bearing late in the season.

Save your seed *Peas*, by drying them in the sun, exposed upon tin waiters or pans. The egg of the pea-bug is deposited when the pod is formed, and at the time of ripening, though unperceived, has nearly obtained perfection. The surest remedy is to heat the seed to a moderate degree, which will destroy the vitality of the egg, and prevent their further appearance; but, as there is some danger of the seed being heated to such a degree as to destroy their vitality, we would recommend exposure to the sun on tin, and then putting them up in jars or bottles, in which put some bits of camphor. Keep them corked close. Pursue the same method with your *seed-beans*.

HOME.—A man's house should be on the hill-top of cheerfulness and serenity, so high that no shadows rest upon it, and where the morning comes so early, and the evening tarries so late, that the day has twice as many golden hours as those of other men. He is to be pitied whose house is in some valley of grief, between the hills, with the longest night and the shortest day. Home should be the centre of joy, equatorial and tropical.

To be silent about an injury makes the doer of it more uneasy than complaints.

NEW SERIES, VOL. I.—24

NOTES ON THE NEW AND BEST STRAWBERRIES.

The strawberry seems adapted to every temperate region, but in no place can it be more successfully cultivated than in our own favored clime. Here every one can enjoy this delicious and wholesome fruit, and our markets should be abundantly supplied at home; and, as a source of profit, no crop would pay so well, where convenient to send to the Northern market.

Since the production of Hovey's seedling, many "rare and unsurpassed seedlings" have been claimed, and persons have been humbugged with such worthless trash as Peabody's Prolific Hautboys, to which even the rejected varieties of the "Prince of Humbugs" are preferable—but our object is to give notes and descriptions of such varieties as can be recommended, and first upon the list we would place

Wilson's Albany.—This new and deservedly popular strawberry, was raised by the late JAS. WILSON, of Albany, N. Y., and upon a fair trial of it here, we pronounce it the best early variety grown. *Flowers* perfect; vines hardy, vigorous, and very productive; *fruit* large, broadly conical, pointed; *color* deep crimson; *flesh* tender, and of a beautiful, bright ruby color; pine-apple flavor.

Longworth's Prolific.—Originated on the grounds of N. LONGWORTH, Cincinnati—and worthy of a place alongside of Albany, *Flowers* hermaphrodite; vines hardy; footstalks long, stout; leaf broad, round, bold, upright, with a curve; trusses large, full, stand up well from the ground, productive: regular and sure bearer; *fruit* large, often quite large, regular, roundish, obovate; *color* rich, lightly crimson; *flesh* firm, scarlet, with numerous rays, with an exquisitely high, brisk, acid flavor.

McAvoy's Superior.—Originated on the grounds of N. LONGWORTH, Esq., at the same time with the preceding. *Flowers* pistillate; vines hardy; foliage broad, dark, wavy, and sharply serrated; *fruit* very large, roundish, slightly conical; *color* deep, glossy crimson; *flesh* deep scarlet, tender, very juicy, with an exquisitely rich, vinous flavor; surface of the fruit rather tender; indispensable in every family garden.

McAvoy's Extra Red.—This originated with the preceding, and is a large, showy, productive variety, but too acid for the palate. We consider it worthy of a place in every collection; being juicy, it makes good tarts, and is a substitute for the cranberry.—Superior to any other for jellies and jams. *Fruit* large, roundish, scarlet; *flesh* stained with red; acid, and to some tastes most agreeable.

Boston Pine.—This fine early strawberry, to have it in perfection, requires deep, rich soil, and to be grown in bunches eighteen inches apart. Vines vigorous; *fruit* large, roundish, slightly conical;

color deep, rich, shining red, with a sprightly, agreeable flavor. A staminate variety, originated with C. M. HOVEY, of Boston. We observe that it is tender, and the berries do not color uniformly, and require to be picked early.

Hovey's Seedling.—This superb and more widely disseminated strawberry, was raised by Mr. HOVEY, in 1834, and is, unquestionably, for a general crop, the finest of all varieties, if planted with a good staminate, or, if grown in the neighborhood of choicer hermaphrodite varieties. The vines are vigorous and hardy, producing large crops, and the fruit is always of the largest and finest flavored. The Hoboken and Merthpen Scarlet have been disseminated by some nurserymen for Hovey and Peabody, sold large quantities of Burr's New Pine for acclimated Hovey. *Fruit* very large, roundish, obovate or conical; deep, shining scarlet, when exposed to the sun. *Pistilate.* *Flowers* small; leaves broad, roundish, distinct from all other varieties; leaf and footstalks short and thick. In deep, rich, loamy soils, and supplied with a good impregnator, this variety will give immense crops of large, fine fruit. Season medium.

Moyamensing.—*Pistilate*; *foliage* large, and with strong fruit-stems; *fruit* large, roundish, conical, deep crimson; *flesh* red, with a pleasant and excellent flavor; ripens with Hovey—gradually; very productive; plant vigorous; the fruit assimilates greatly to the old Hudson, in form, color, and general appearance; quite showy, and being firm, will prove a good market variety.

Hooker.—Originated with H. E. HOOKER, of Rochester, N. Y., and is highly esteemed wherever fruited. Hermaphrodite—vines vigorous, with large, broad foliage; hardy and productive; continues long in bearing; fruit-stalks long; *flowers* quite large; *fruit* large, obtuse, conical; generally regular flesh; *color* deep crimson, almost maroon, with a polished surface, which, like McAvoy's Superior, is rather tender. *Flesh* deep crimson, juicy, with a rich, fine flavor; promises to be quite an acquisition.

Crimson Cone.—This old and beautiful variety, sometimes known as the Scotch Pine-Apple, is much grown at the North as a market variety; hardy, vigorous and productive; *flowers* pistilate; *fruit* medium to large, regular, elongated, conic; *color* deep crimson, with the seeds deeply imbedded; *flesh* firm; sprightly, rich, acid flavor. One of the best for preserving.

Jenny's Seedling.—A pistilate variety, hardy, vigorous, and productive; *fruit* roundish, conical; *color* rich, dark red; *flesh* firm; rich, sprightly acid—fine for preserving.

Walker's Seedling.—An excellent and most pro-

ductive variety, raised from seed of the Black Prince, which it greatly resembles. *Flowers* staminate; *fruit* large, regular, generally conic; *color* very deep crimson, becoming maroon at maturity—glossy; *flesh* deep crimson, tender, juicy, with a fine, rich, brisk, acid flavor. This variety prolongs the Strawberry season for a week or ten days, and deserves a place in any collection.

We have other native and foreign varieties, which have not been tested sufficiently to recommend them generally. We would mention Scarlet Primordian and Triumph, as two American varieties, of good promise.

LANDSCAPE GARDENING.*

America has been too busy in opening the forests during the two centuries which have been marked by her rapid progress, to pay much attention to beautifying the landscape, by the application of rules of art, or studies tending to improve natural advantages around the homesteads, even of the most wealthy of our citizens. God's glorious garden of the New World, planted in strange and luxuriant trees, needed no palace or cultivated park—no fountain spouting its crystal waters from ornamental Tritons—no winding ways of smooth, gravelled roads—no exotic tree or flower, to make it the happy home of the cabin-dweller—the man of enterprise and nerve, who contended with the forest, its savage beasts, and more savage owners.

Tall forests, sombre in bosage, vallies in which the trill of the song-sparrow echoed the liquid cadenzas of the music-throated choristers, mountain sides, blue in the empurpled haze of dim distance—all had to fall before the axe, and the plough-share, and the trampling herds of the invader; and when the cabin-roof was rotten, the comfortable farmhouse arose in its place. Broad fields, throwing off the vestments of Nature, bared their bosoms to the sunshine; harvests of grain grew, golden, where they stood; fruit, mellowed and flushed with varied hues from green orchard-boughs; hot, sweltering cities, of brick and stone, rose, with glittering spires, beside the harbors of the sea; a nation wrote its name in deeds of valor on the historic page of the world's destiny; but still, the spirit of utility alone reigned in the land, and the beautiful in nature and art was left to struggle and languish, for the American people were too much engaged in money-making to beautify their homes, or add improvement to nature's charms, which lay scattered around them. A babbling mountain-stream had no value, but as

* The theory and practice of Landscape Gardening, adapted to North America; with a view to the improvement of country residences, &c., &c. By the late A. J. DOWNING. With a Supplement, &c., &c. By HENRY WINTHROP SARGENT, pp. 576. New York: A. O. Moore. 1859.

the motive-power of a dirty paper-mill, or greasy wool-factory; or, perhaps, was ruralized, by being chosen as the site for a rustic mill—the everlasting clack of which beautifully harmonized with the merry shouts of the boys who surrounded its door with their horses and grain-sacks. A valley was shorn of its tall trees, in order to convert it into a meadow or “glorious corn-field.” A rugged mountain was a real nuisance, obstructing the view of all beyond it, and often acting as a cloud-splitter, and directing needed showers from their legitimate courses. Such was the state of things when DOWNING published his “Landscape Gardening”—a book which, in the main, was well adapted to the wants of the Middle and Northern States of the Union.—Immediately upon its appearance, a new spirit sprang up amongst the people. Tree-planting and ornamental grounds became a necessity to the man of taste, and building houses brought surroundings of rare and beautiful natives and exotics, for the first time, generally, within the range of the enjoyment of the American citizen.

Since that time no book has been more read by rural improvers, nor has any work exerted so general an influence amongst the country population, as this has in the States named. Unfortunately for the South and South-West, it was not adapted to our wants. Indeed, the landscape author who could awaken our people to a general improvement of our broad-tilled acres, we think, has not yet appeared. The work under notice presents many hints which are useful to us, but the author had no conception of our wants in this particular. If he had ever been amongst us—traveled in our rich verdured land—contemplated our broad fields—our quiet rivers—our bold, rugged mountains—our glassy bays and inlets on the ocean—our land of flowers,—spicey, perfumed Florida—that genius which made so good a text-book for those regions with which he was acquainted, would have added many chapters of *dolce far niente*—teachings of art, suggesting improvements to the rural taste of the South. Here, where nature is so exuberant—where the graceful tulip-tree, the magnolias, and all their sisters of the forest, attain their most magnificent proportions—his mind and pen would have reveled amidst novelties, and he would have done for the whole country what Sir UVEDALE PRICE and REPTON have achieved for England. As it is, it is the only work worthy of this great pursuit as yet published in America; and we are under many obligations to Mr. SARGENT for the valuable appendix he has given to the last edition, showing what we can do, by elaborating histories of his own labors at Wodenotter, and of Mr. HUNNEWELL’S place, near Boston. The very correct accounts which he gives of new evergreens and

ornamental trees, is, to us, the most satisfactory portion of the work. It is not now our province to make more than mere mention of Mr. SARGENT’S exertions in introducing and propagating novelties, as we will recur to his successes and failures in acclimation, in articles we propose to write, in which we will give detailed accounts of such as have succeeded in the South, and are entirely worthy of cultivation here. The book, with Mr. SARGENT’S appendix, is the more valuable to the general reader, and we sincerely hope it will become the companion of all lovers of the landscape, as it should be, beautified by good taste in planting, and the general introduction of all that is rare and lovely in vegetable life. When we surround our homes with attractions of such a nature, we become more contented and better citizens. *

From the American Farmer.

SWEET POTATO CULTURE.

MESSRS. EDITORS:—In continuing, at your request, the subject of Sweet Potato Culture, as practised in this section, it becomes my place next to give the usual manner of preparing the ground for the reception of the sprouts.

This crop, with us, is usually put in land cultivated the previous year in corn, or some other cultivated crop. The ground is plowed to a moderate depth, (say five or six inches,) and sometimes cross-plowed, then well harrowed, then laid off in rows three feet apart, in which we drill manure, at the rate of forty or fifty cart-loads per acre. The manure used is such as we raise upon the farm during the previous Summer and Winter, which is hauled out at intervals, during the Winter and early Spring, and composted with woods-mould, sea-weed, old potato-bed, or anything else that is available. This is cut down with grubbing-hoes, and well beaten to pieces before being thrown into the cart for drilling. So important do we think this piece of work, that it is often chopped over a second time before being used.

Sometimes we broadcast it, but this is not often the case, though we think it is just as good, perhaps better; but it takes rather more in that way, which is the cause of the drilling system being adopted.—I have used guano in the drill, at the rates of from one to two hundred pounds per acre, and made good crops with it. I have also used guano in the drill, after having previously manured the ground, and think it pays well. One advantage in the use of guano is (if no other) that it causes the sprouts to grow off sooner, and, consequently, they can be worked to more advantage.

The land is left as when drilled, until we have sprouts sufficiently large, which we generally have by the first of May, and if we have a season about that time, we usually commence setting out. To prepare the ground for these, we usually run three furrows; the first in the same furrow in which the manure is deposited, running a little deeper than the manure, which throws the manure out; the second throws the first one back, and the third laps over the second, which form a ridge, or list. This is levelled off with the back of a hoe a little, which facilitates setting out the sprouts. They are set from fourteen to sixteen inches apart. My experience

teaches me, that where the ground is very wet, or even moderately so, that the dirt should not be pressed much around the sprout when set out; for, when it dries, it causes it to bake around the sprout, and, consequently, it must suffer, if it does not entirely perish. At such times I usually hurry my hands, and have two reasons for doing so; the first, that I may get as many sprouts out as I possibly can during the season; and, secondly (and by no means the least), that my hands may not have time to more than pull up the dirt to the sprouts. I have often noticed that sprouts set out by the fastest hands, always live the best, and for no other reason than that they put them in loosely. I usually set, with each hand, in this way, about three-quarters of an acre per day, and there are said to be some hands in the neighborhood, who can set an acre per day; of course, in these cases the sprouts are drawn and taken to the setters. When the ground becomes dryer, we take more care in putting them in; and if very dry, and we have plenty of sprouts large enough, we "mud" them, and continue putting them out. I have found cow-dung and clay, mixed in equal proportions, to be the best thing to mud the roots with. Care should, however, be taken to get as little on the tops of the sprouts as possible, as they are not apt to live as well as they would otherwise.

Hoping I have explained the process of manuring and setting out the sprouts, I shall proceed to give the manner of working the crop; and as this differs with almost every farmer, I shall endeavor to give the two methods adopted by the largest and most successful cultivators—by either of which, I feel sure, a fair crop can be made, if the land and other things are suited to them. The first is, as soon as the grass begins to appear, run a narrow cultivator down the middle, and then with a single horse plow throw two furrows to the sprouts, following with the hoes, and hill up around the sprouts; this is termed by those who practice it, the first working. When the grass begins again to appear, the second working is given them, by again running the cultivator down the middle, once, and weeding down the ridges with the hoes. They are permitted to remain in this way until the grass again appears, when the third and last working is given them, by turning the vines, (which will have crossed the rows,) and throwing the dirt to them again with the plow, this time, running four times in a row. In the last working, when the vines have to be turned, every other row is plowed, and then followed with the hoes before the vines are turned back into them, which, when done, are worked like the others, which finishes them, and will be sufficient, if the work is done well, and when it ought to be done. Another method adopted, is, for the first working to cultivate the middles, and weed them as in the second working described above, letting them remain in this way until they begin to get a little grassy, when the vines are turned into every other row, and dirt plowed to them, running four times in the row, which cleans up the middle. Then the hoe hands follow, cutting out any grass that escaped the plow, and hill up at the time. Then the vines are reversed, and the other rows plowed, and hilled with the hoes, as in the first rows. Some weeks after this is done, the hands again go over them, and pick out, with their hands, any bunches of grass that are around the sprouts, which is the finishing of them.

Of the two methods given, I am rather inclined to

think that the first is mostly practiced, though both are, to a considerable extent.

Another plan of working the crop, is, as soon as a good rain comes, (which will settle the dirt well around the sprouts,) and the ground becomes dry enough, a cultivator or drag is run twice in a row, running as near the sprouts as can be done without disturbing them. This leaves the ridges narrow, most of the dirt which formed the ridges, being, by this process, left between the ridges. They are left in this condition until the grass begins to appear, when the dirt is thrown to them with a small plow, (a No. 6 being the one I use,) running very near the sprouts and only going twice in a row, which, if done by a good plowman, and a slow horse, laps the dirt nicely around the sprouts, leaving very little to be done by the hoe hands; however, they go over them after a few days, and work around the stumps, if any, and hill up such places as were not well done by the plow. If the plow throws the earth with too much force by running near the sprouts, it may be remedied by fastening a piece of rope around the mould-board of the plow, which will then only shove the dirt up gently—the object being, at this working, to hill them, and, at the same time, leaving only a small ridge. When the grass begins to appear again, the vines are turned into every other row, the hands who turn the vines picking out any grass they may see around the sprout at the same time, when the cultivators are again run twice in a row, after which the plow follows, throwing the dirt again towards the sprouts, though throwing very little around them. At this plowing a larger plow is used, (with us a 12 $\frac{1}{2}$, or seed) which will throw the dirt up to the sprouts without the process of weeding them with the hoe, as in the two methods before alluded to. After this is done, the hoe hands are again used for chopping the grass from around the stumps, uncovering any vines that may have been covered up by the plow, and putting up any dirt that may be needed; after which the vines are turned into the rows that have been worked, when the others are worked in the same manner.

After some weeks the hands can go over them again and pick out any grass that has attained sufficient size to injure the potatoes, as there is not a great deal to be done on the farm by that time.

I know of no one except myself, who has worked a crop by the last plan described, though I think it has very many advantages over any other plan that I know of, some of which I will endeavor to point out. In the first instance, the early cultivating checks the grass, and leaving, as it does, the earth loose, and the ridge narrow, gives the sprouts more warmth from the sun, thereby enabling them to attain a sufficient size by the time the grass appeared, when the dirt can be plowed to them nicely, which saves much tedious hoe work.

In the second instance, by the use of the small plow recommended, they can be hilled better, the grass can be checked as effectually (if the plowing is done before the grass gets too large), and the ridge is again left narrow, which gives the same advantage in this as in the first instance.

In the third instance, the ridges being narrow, the dirt can again (with a larger plow) be thrown to them as soon as these vines are trimmed, without being previously weeded with the hoes. By this process, more than one-half of the usual hoe work can be dispensed with, and the work can be done much

more rapidly when it is weeded. The scarcity of hoe hands was the cause of my adopting it in the first instance, the result of which was the making the largest yield I ever made.

Hoping that this communication may be worth to some of your subscribers, the space it will occupy in your highly appreciated journal,

I remain yours, respectfully,

W. D. WEST.

Elizabeth City County, Va.

MANURES FOR THE GARDEN.

Experience has proved what science has taught us, that no matter how rich and suitable our soil, when we commence to raise crops and remove the produce, it will become gradually unproductive.—The reasons for this result have been fully stated, and are questioned by no intelligent cultivator. We need not here enter upon the demonstration of this fact; our purpose is to offer a few hints upon the best method of obviating this exhaustion of the soil. The active soil has been found to contain a certain number of essential elementary constituents; these exist in very various proportions in different soils. The absence of any one of them, however, renders the fertility of the soil very doubtful. The entire want of the least of these elementary parts, is held to be disastrous to the cultivator. In cases where less than the average exists of any one of these, say magnesia, iron, or even manganese, and that we plant a crop which takes up a large proportion of these particular constituents, we may unwittingly render our soil almost unproductive in a single season.—How carefully, then, should we ascertain the nature of the soil, and the nature of the crop it is to bear, so that we may replace the waste of any special ingredient. Nor, to accomplish this, is there any necessity that we should be expert chemists. We have the teachings of experience to show us that *well composted barn-yard manure*, properly applied, will return to the soil almost all the principles required; a little lime or salt, may, at times, be desirable, as an additional application—but the use of these is pretty well understood. We might with safety, affirm that to soils of average quality, a sufficient annual dressing of barn-yard manure would prove a preservative of fertility, provided, always, that the fundamental principles of good culture are complied with and carried out. There are, nevertheless, circumstances and cases, where special applications of manures are productive of increased fertility, and where even barn-yard manure should be so prepared as to correspond with the texture of the soil. There are contingencies, also, where the favorite material is beyond the reach of the cultivator at the time required; in these cases, concentrated fertilizers, such as powder-ette, super-phosphate, guano, bone-manure, and other manufactured substances, may be substituted, if procured of good quality and applied skilfully.

A compost prepared by the cultivator, in good season, and made up of fresh, unexhausted loamy turf, decayed leaves, cow-droppings and stable litter, with such liquid matter as is to be procured in the barn-yard, together with a proportion of fully-dried swamp muck, weeds and refuse, rotted or burned; and, in fact, any such material as a farm or garden affords; such compost is of more value to the kitchen gardener, when kept for a sufficient time to render its decomposition certain, than any other manure he can apply, especially for hastening his succession of veg-

etables, as it is all-important that the material employed impart the requisite stimulant at once.

There is much to be said in regard to the requirements of certain soils and certain crops. In this place we shall content ourselves with remarking, that soil newly broken up, will not the first season produce a variety of vegetables in perfection, though it may be very rich in all the necessary elements.—It requires commixture and comminution of its particles, with free access of air and water. If a heavy clay, it will require several seasons to pulverize it. If sandy soil, it will require the addition of some tenacious material, such as clay, or very fully decomposed barn-yard manure and muck.

Fresh loam is, perhaps, the soil most readily reduced to a fit state for general crops. If the soil is tenacious, do not apply manure in a decomposed state; let the litter be fresh, so that it may decompose in the soil, producing combustion, and, consequently, melioration of the cohesive properties of the soil.—For such a soil, guano, or similar fertilizers are much inferior to litter. Some vegetables dislike fresh manure in close contact with their roots. Such are the carrot, parsnip, pea, and others; there are many which will not succeed in the absence of rich and highly-stimulating material, as cabbage, onions, leek, celery, &c. Some of these are partial to particular soils, also, and several demand a special routine of culture different from that which agrees with their less fastidious neighbors.—*Country Gentleman.*

FORMATION OF A HOT-BED.

Taking into account the rapidity with which the Summer succeeds Spring, and how tardy the advent of Spring seems to be, any means by which we can advance vegetation a step, should be adopted, if not involving an undue expenditure. The hot-bed is a simple and economical method of promoting the early vegetation of choice seeds, of esculents, &c., so that by the time the severe frosts have disappeared, we may transfer to the garden our plants, partly established. The flower-garden may be spared a small corner of the hot-bed, also, for the raising of a few choice annuals.

The expense of constructing or getting up this HOT-BED, frame is not overwhelming, though plans have been proposed to cheapen the luxury still more. A frame of three lights or sashes will be found sufficient for a small garden. It is formed of a frame or box about six feet wide by twelve feet long, with sloping sides and a higher board at the back, which is to be placed at the north, with cross-bars to be fastened by hooks and staples, as this proves the most convenient method of removal; these cross-bars support the sashes. The sashes are generally glazed with six to eight inch glass. Any person may thus compute the probable cost of such a frame in his own vicinity, requiring boards for the frame, cross-bars, and three sashes six feet long by three feet eight inches wide, allowing four inches for each sash to rest and the cross-bars.

The material to create the bottom heat is the next consideration. This must be long stable-litter, which, if of the right quality, may be mixed with a portion of leaves from the wood. The litter should be laid in a heap for some days before use, in order to allow it to commence heating. About four wagon loads will be sufficient. The ground for the frame having been selected, sheltered, if possible, on the north, and well exposed on the south-east, throw

out a shallow trench, and lay the soil taken out in a ridge along the margin of the intended bed; this forms a sort of base, to prevent the litter from being scattered about. Then shake the litter regularly in layers, beating it gently with the back of the fork as you proceed, to consolidate it; if leaves are used, lay them in alternate layers; too great a layer of leaves would prevent fermentation going on as rapidly as desirable. The heap should have a gentle slope from back to front, and should be, when formed, about three and a half or four feet high at the back, and three in front; it will gradually subside. On this heap lay the frame; the manure should be allowed to extend about a foot beyond the frame, on all sides. Keep the sashes close, and covered with mats for two or three days, till the heat raises, and, when fully up, cover with six inches of light loam and leaf-mold, of the richest quality, which should be carefully selected.

When the heat comes up, a little air is required, and space to permit the escape of steam, by tilting up the sash. In a few days the heat will moderate, when seeds may be sown, either in small compartments in the top-dressing of soil, or in boxes or pans, slightly "*plunged*," as we term it, in the bed. The only danger is from the generation of too violent heat, and the prevalence of steam from the fermenting materials. Tan-bark has been successfully used to cover with, as this keeps the steam from rising; this cannot be employed where seeds are sown in rows, without the use of boxes or pans. We have, perhaps, devoted undue space to the method of preparing a hot-bed. We sincerely hope that even one individual may be benefitted by the details of what is, to many, a thrice-told tale.

EXPOSING THE ROOTS OF TREES AND PLANTS.—We would call the attention of every purchaser of a tree, shrub, or plant, to the fact, that more than half the trees that are hawked about the country in wagons, or lying in the auction rooms, or exposed at the corners of our streets, or anywhere else, with their delicate fibrous roots open to sun and wind, knocked about, the roots broken and bruised, must die.—Such exposure, such neglect and abuse, is certain death. And we would add further, a moiety of the balance can never become quick-growing, healthy, and fruitful trees or vines. They receive a check by such an exposure which they never outgrow.

Every injury to root or branch that is not removed by pruning beyond the injured part, becomes to the tree a gangrene, and affects all its future life. We wonder every grower is not more careful, more tender of nature's beautiful handiwork. The roots of a tree are the arteries; they send life up to the branch, that it may put forth leaves. The leaves are the lungs, and they continue perfecting their work until the bud, blossoms, and fruit, give evidence of health; and thus they reward all the care bestowed by the hand of the skillful gardener. We only hope every purchaser of trees and plants will think of these things.

SCRATCHES IN HORSES.—A correspondent at Portland, sends us the following: Take lime, slack it dry, sift it, and put the flour into a bottle; cork tight and keep in a dark place. Mix with a knife or spatula one part lime, with three parts lard or butter, cold. Wash the sore clean, and apply the salve morning and evening, wrapping a cloth over the part.

RURAL BOOK-TABLE FOR JUNE.

From Messrs. O. A. MOORE & Co., No. 140 Fulton St., N. Y., we have received—

1.—*Hedges and Evergreens*; a complete Manual for the Cultivation, Pruning, and Management of all Plants suitable for American Hedging—especially the Madura, or Osage Orange. To which is added a Treatise on Evergreens—different varieties, their Propagation, Transplanting, and Culture, in the United States. By JOHN A. WARDEN, M. D. 1 Vol., pp. 291.

In these days, when scarcity of timber stares the planters in the best sections of the South in the face, and substitutes for the unsightly zigzag rail fences are sought—no more acceptable manual could have been published for their use than this complete work of Dr. WARDEN, whom we know not only to be a correct rural author, but a gentleman, who, under great difficulties, has accomplished a great deal in horticulture, pomology, and the rural arts. The whole system and operations necessary successfully to grow permanent enclosures is ably treated, and made plain and familiar practice, by clear and conclusive descriptions, and copious illustrations, for planting and regulating the growth of hedge-plants. Ornamental hedges and screens are ably treated of in this work. Dr. WARDEN has appended quite an interesting essay on evergreens, and their uses for shelter, economy and ornament, which embraces lists of the usual varieties, as well as suggestions as to planting and management. There is no author better capable of speaking in this department of horticulture than he is. On the whole, this is a very timely volume. Price \$1.00.

2.—*American Weeds and Useful Plants*; a second edition of Dr. DARLINGTON's Agricultural Botany. Revised, with additions, by Prof. GEO. THURBER. 1 Vol., pp. 460.

As the title specifies, this is a new edition of Dr. DARLINGTON's Agricultural Botany—a work which has long been the farmer's *vade mecum*, and which was out of print for several years. The great aim of rendering familiar to the agriculturist, those plants which were both useful as well as injurious to his calling, has been achieved in this work. Certainly, the man who expects all his life to deal and live among plants, should understand their systems and structure. "Medicine has her essential botany, and why should not agriculture, dealing in vegetable life for the support of all its arteries, have its own determining texts of science laid down to suit its wants? The author, with the additions now made by Prof. THURBER, has done all this in a systematic and comprehensible style. The price of this volume is \$1.50.

From Messrs. WILEY & HALSTED, No. 351 Broadway, N. Y.:

- 1.—*The Fruit and Fruit-Trees of America, &c.*; by the late A. J. DOWNING. Revised and corrected by CHARLES DOWNING. 1 Vol., pp. 760.

Upon this new edition of his brother's great standard work of the Fruit and Fruit-Trees of America, Mr. CHARLES DOWNING has bestowed years of toil and research. When it was first published by the late Mr. DOWNING, it immediately took its place of authority, and became indispensable to the library of the Pomologist. Its fine style, able research in vegetable physiology, independently of its extensive and generally correct nomenclature, gave it high rank as a literary production, graceful in its details, and charming in its narrations of facts and principles.—Since that day, although fashion in fruit has changed, it has stood the test, and is now a household book. Mr. CHARLES DOWNING has not been as happy in the typographical execution, entrusted to proof-readers, as he has been in the collection of new facts, with which he has enriched the volume. We are sorry to see important errors and omissions in nomenclature, resulting from this inattention, which, in some degree, mars the pleasure attendant upon the reception of a new, popular, and enlarged edition of the best fruit-book ever published in the world. We say *best*, because its effects upon fruit-culture in America, have been more beneficial than all the other books published. In evidence of this, we may remark, that, upon the first publication of this work, it immediately aroused the people of America to the benefits and importance of fruit-growing. Contemplate the state of the country then, and mark its features in this particular now. Thousands will hail this new edition with welcome pleasure.

- 2.—*The Rose; its History, Poetry, Culture and Classification.* By S. B. PARSONS. 1 Vol., pp. 282.

A genial little volume, full of poetry, sentiment, fancy, fact, practice, and detail, embracing everything desired to be known of the lovely Queen of Flowers, is furnished by Mr. PARSONS. It is a book for the ladies, as well as the professional and amateur cultivator of this glorious plant, the pride of the garden and the favorite flower of the million.

A list of 1,966 cultivated varieties of the rose is appended, but the skill of propagators is rapidly increasing this uncomfortable number. The achievements in this line, within the three past years, are perfectly startling; and the novelties which we now have under cultivation, will, when disseminated, increase the admiration in which this flower is held.—Our's is the home of the rose, and it should grace every mansion and farm-house in the land.

- 3.—*How to Lay out a Garden*; Intended as a general Guide in Choosing, Farming and Improving an Estate, with reference both to Design and Execution. By EDWARD KEMP, Landscape Gardener, Birkenhead Park, England. 1 Vol., pp. 403.

If we were called upon to select the most unique, systematised, and well ordered treatise upon Landscape Gardening, perfect in its details and comprehensive in its information, we certainly should designate this volume. It is the sort of book that the devotee, in natural beauty, loves to pore over—a book for the studio and the field, and one of which every page is crowded with matter and food for thought, study, and reflection. The maxims of Repton, and the philosophical beauties of Sir Uvedale Price, are not more captivating than those afforded by the modern elegance of Mr. KEMP. The style in which this volume is put forth, is not the least of its recommendations—but fair type, fine paper, beautiful illustrations, and elegant binding, never detract from the more substantial merits of a book.

A CHEAP ICE-HOUSE.—Any person, in the country, where timber is cheap, can erect an ice-house at but little expense. All that is required is to put up a strong frame for the size of house required; and board it up close, inside and outside, with a space between, all around. This space is stuffed close with straw, or dry sawdust. The roof is made in the same manner, and the house is then complete.—Straw and sawdust are cheap and good non-conductors. The house should be situated on a dry spot, and should have a drain under the floor. It should also be convenient, to be filled easily. The walls of stone and brick ice-houses should be double as well as those of wood. Great care should be exercised in packing ice; all the blocks should be clear and solid, and about the same thickness, so that they may be packed close together, and frozen into a solid mass. In favorable situations, good ice-houses may be excavated, like caves, in the face of a hill.

BATHING.—In our humble opinion, many of the diseases of mankind might be avoided, by the simple performance of this cleanly duty. There is no excuse for its non-performance, by the common plea, we have no convenience for bathing. Yes, you have. There is no occasion for going heels over head into the mill-pond to perform ablution of the entire person. True, a good bathing-tub, or convenient shower-bath is useful, but not indispensable, because the skin can be kept perfectly clean by the use of a common wash-bowl and coarse towels. By the solid matter thrown off by perspiration and accumulating dirt, the pores of the skin become clogged, and are rendered unfit properly to perform their functions. A clean skin is not only conducive to the bodily, but to the mental health. Clothe a civilized race in rags and filth, and how soon they will become savages.—No one can be clean who does not daily, or at least weekly, bathe in some way, the whole surface of the body.

If things were to be done twice, all would be wise.

Domestic Economy, Recipes, &c.

APPLE-DUMPLINGS.—Use buttermilk and sour cream, as for biscuits, with a small quantity of butter, or nice lard; salt, of course, and enough saleratus to correct the acidity. Knead, roll to a little less than half an inch in thickness, do up into any size preferred, with sliced apples in the centre. Bake, boil, or steam, until the fruit is cooked tender.—Serve with sweetened cream, or butter and sugar, if cream cannot be had, flavored with nutmeg or lemon. Other fruit may be substituted in place of apples.—Dried blackberries, slightly cooked, are nearly as good as when fresh from the bushes.

CHICKEN SALAD.—Boil a chicken that does not exceed, in weight, a pound and a half. When quite tender, take it up, cut it in small strips, and prepare the following sauce and pour on it: Boil four eggs three minutes; take them out of the shells, mash, and mix them with two spoonfuls of drawn butter, twelve of vinegar, a teaspoon of mixed mustard, the same of salt, a little pepper, and essence of celery.

LEMON OR ROCK CANDY.—To one pound of loaf sugar, put a large cup of water, and set it over a slow fire for half an hour. Clear it with a little hot vinegar. Take off the scum as it rises. Try when it is done enough, by dipping a spoon in it and raising it; if the threads thus formed snap like glass, it is done enough. Then pour it into a tin pan; when nearly cold, mark it in narrow strips with a knife.

MUFFINS BAKED WITHOUT RINGS.—Warm a quart of milk over the fire, and in this melt a piece of butter, not quite the size of an egg. Then add to this four well beaten eggs, a teaspoonful of salt, and a spoonful of yeast. Stir in flour sufficient to make a batter, and instead of baking in muffin rings, bake in a griddle, as you would buckwheat cakes. The batter must be made thick enough to keep the cakes from spreading much, and the cakes must be well browned on both sides. Then tear the cake open when you eat it, as you would a muffin, and in all but looks it is equally good.

POTATOES ESCOLLOPED.—Mash potatoes in the usual way; then butter some nice clean scollops, patty-pans, or teacups, or saucers; put in your potatoes, make them smooth at the top; cross a knife over them; strew a few fine bread crumbs on them; sprinkle them with a paste-brush with a few drops of melted butter, and set them carefully out of the shells, and brown on the other side. Cold potatoes may be warmed up in this way.

SOUSE.—Clean pig's feet and ears thoroughly, and soak them a number of days in salt and water; boil them tender and split them. They are good fried. To souse them cold, pour boiling vinegar over them, spiced with mace and pepper-corns. Cloves give them a dark color, but they improve their taste. If a little salt be added, they will keep good, pickled, for a month or two.

IMITATION APPLE PIE OR SAUCE.—Take equal parts of yellow pumpkin and cranberries; stew down the pumpkin before mixing, and sweeten to suit the taste.

TOMATO WINE.—Superior wine from the tomato is now manufactured. It is made with no other ingredients than the pure juice of the tomato and sugar, and very much resembles champagne—a light transparent color, with a pleasant, palatable flavor. It can be made equal to the best champagne.

COLOGNE WATER.—One pint of brandy; thirty drops oil of lemon; thirty of bergamot, and half a gill of water.

APPLE CUSTARD PIES.—Grate four sweet apples, add a pint and a half of milk, two eggs, sugar, a little salt, season with lemon or nutmeg. Bake as a custard.

YELLOW CAKE.—One cup of melted butter and one of good brown sugar, stirred together. Half a cup of sweet milk, two teaspoonfuls of cream tartar, and one of soda. Yolks of four eggs. Flavor with nutmeg. Add sufficient flour to form a thick batter.

ICE CREAM.—Half a pound of loaf-sugar to each quart of rich cream. Flavor with manilla or the peel of one lemon soaked in the juice of the lemon. Grate the peel, then strain all through a piece of muslin into the cream.

FROSTED FRUIT.—Beat the whites of eggs and dip the fruit in them. Then lay it in finely powdered sugar, put on a tin with paper under, and set them in an oven nearly cool to dry. When the icing is firm, pile them on a dish, and set in a cool place.—A very pretty dish for evening parties.

FOR BURNS, TRY IT.—The French Medical *Gazette* states, that charcoal has been accidentally discovered to be a cure for burns. By laying a piece of charcoal on the burn, the pain subsides at once.

SCOT CAKE.—Two cups of butter, three cups of flour, two cups of sugar, one cup of sweet milk, three eggs, half-teaspoon of soda, one of cream tartar, a little nutmeg. Bake one hour.

SOFT GINGER BREAD.—One cup of butter, one pint of molasses, one tablespoon of ginger, two eggs, two teaspoons of soda, dissolved in half-pint of milk, flour enough not to be very stiff.

GINGER SNAPS.—One pint of molasses, one cup of butter or lard, two spoons of ginger, one teacup of sugar, two teaspoons of soda, dissolved in half-cup sour milk, one teaspoon of salt.

CUP CAKE.—Two eggs, two cups of flour, one and a half cups of sugar, one-half cup butter, one-half cup sour milk, and one-half teaspoon of soda and cinnamon.

A STRONG CEMENT FOR CHINA OR GLASS.—With a small camel-hair brush, rub the broken edges with a little carriage-oil varnish; and, if neatly put together, the fracture will hardly be perceptible, and when thoroughly dry will stand both fire and water.

INK SPOTS.—If soaked in warm milk before the ink has a chance to dry, the spot may usually be removed. If it has dried in, rub table-salt upon it, and drop lemon-juice upon the salt. If a lemon cannot be obtained, vinegar will answer. White soap, diluted with vinegar, is a good thing to take out ink spots.